

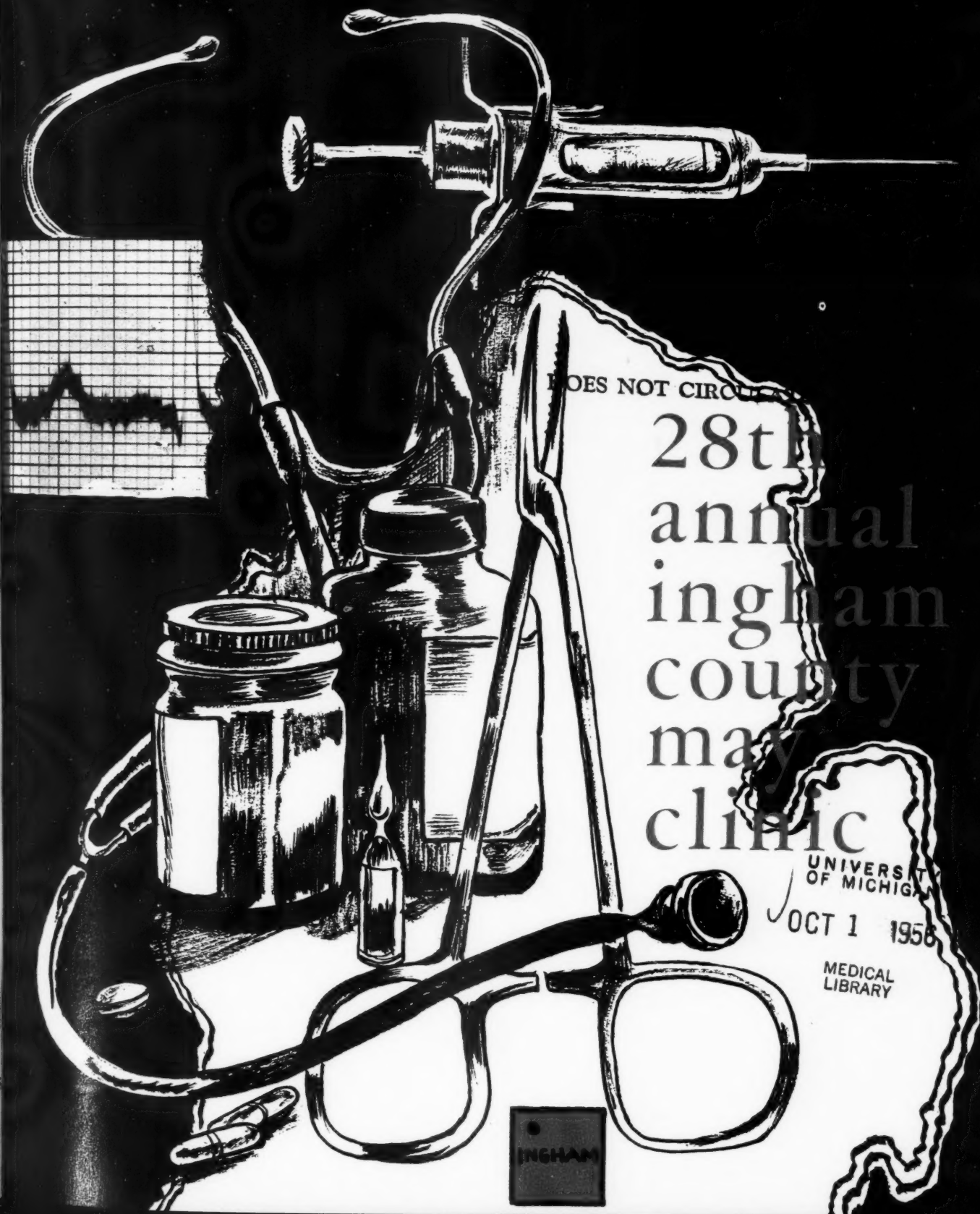


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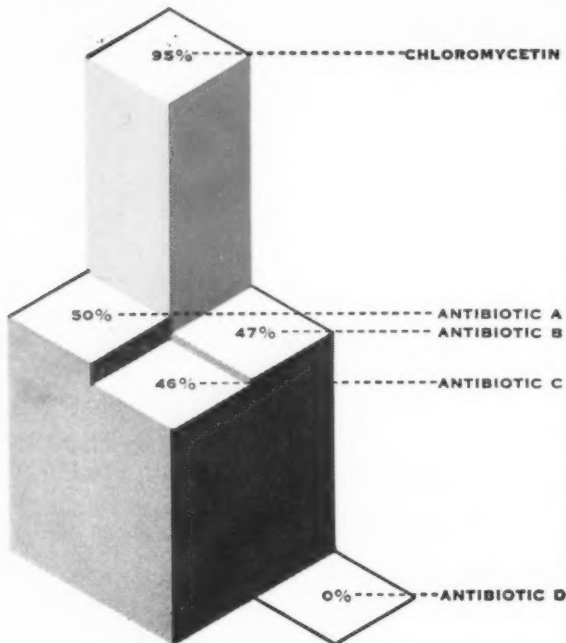
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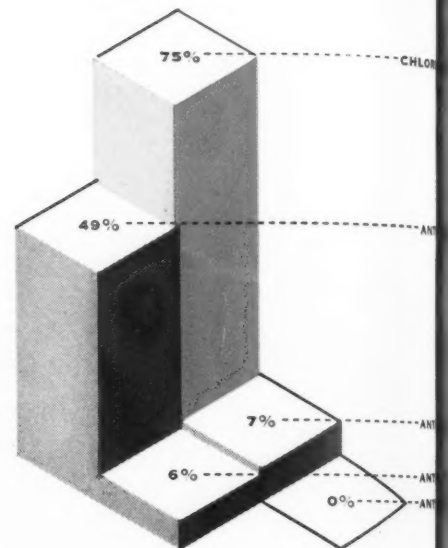
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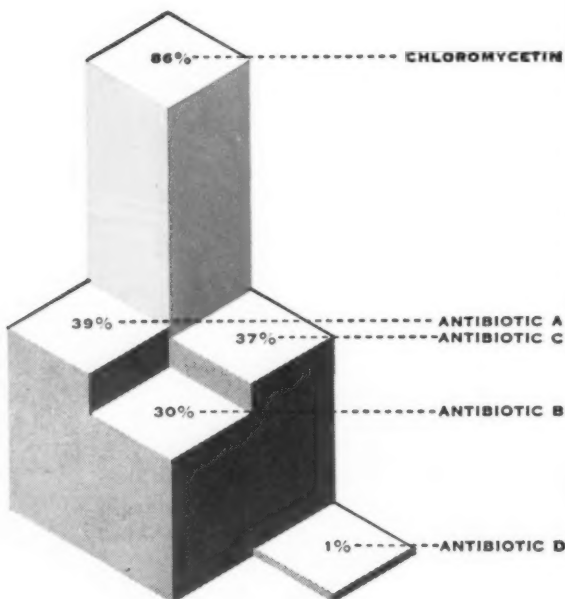


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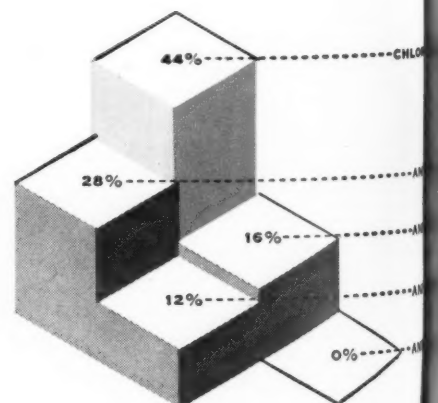


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SEPTEMBER, 1956

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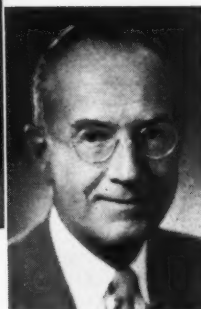
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I. H. PAGE

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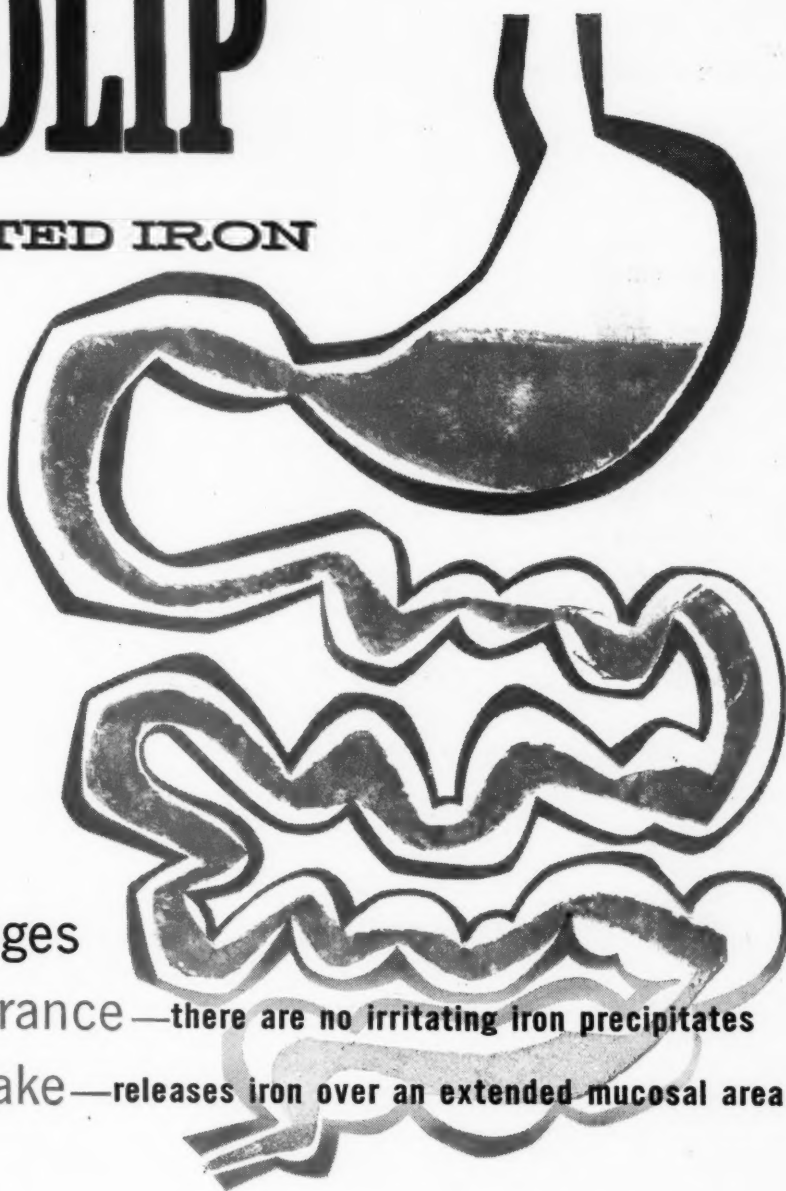
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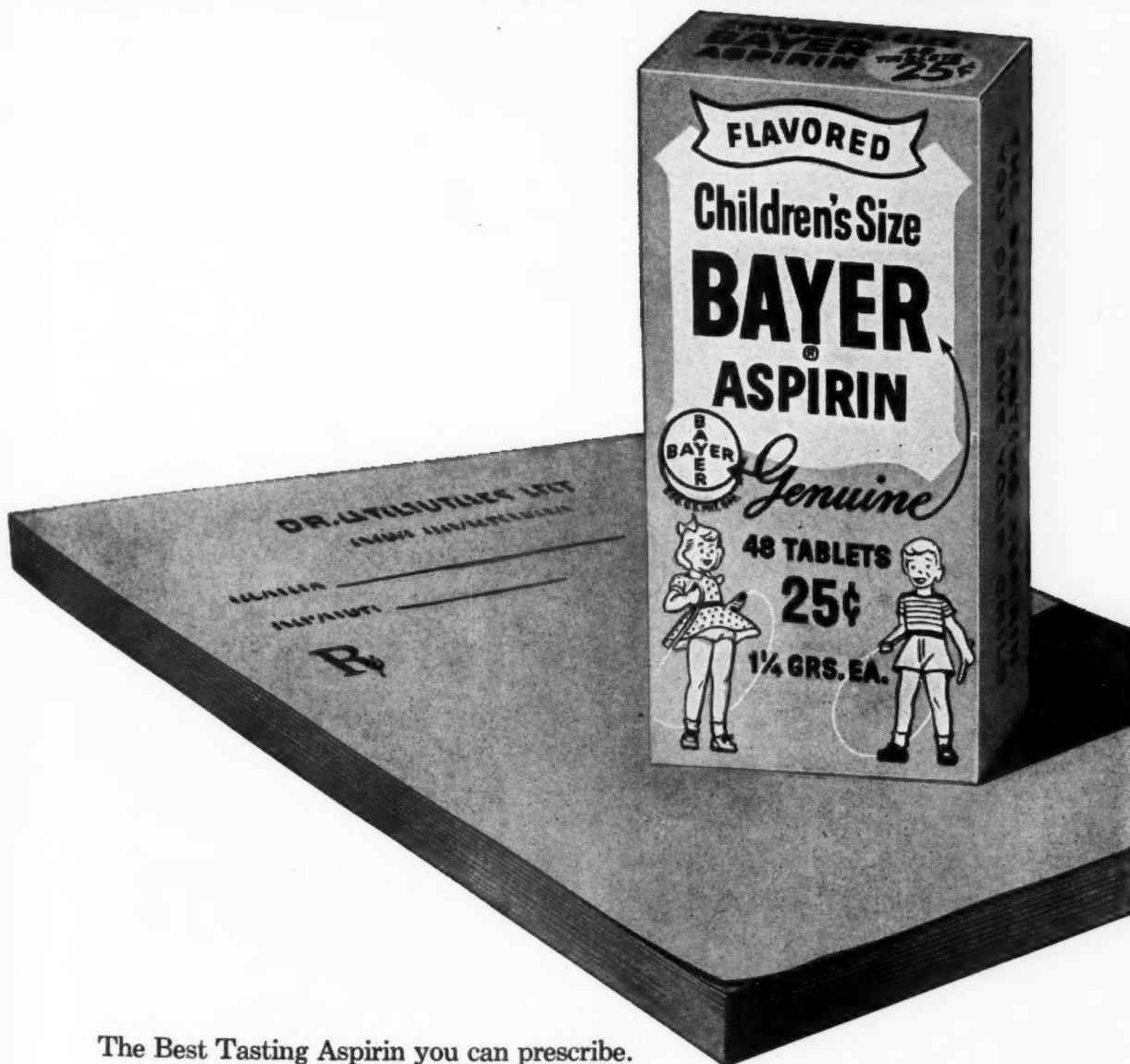
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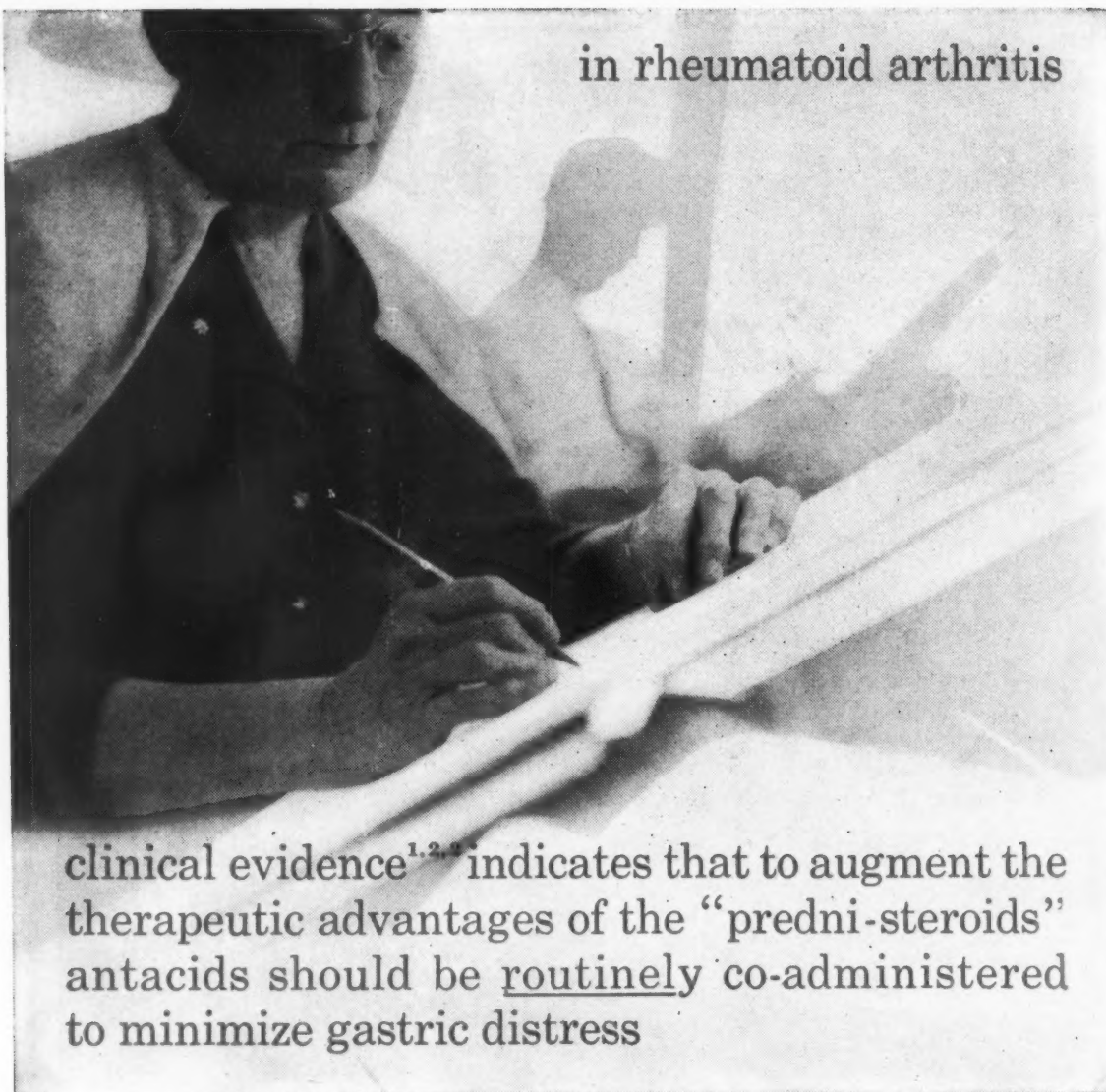
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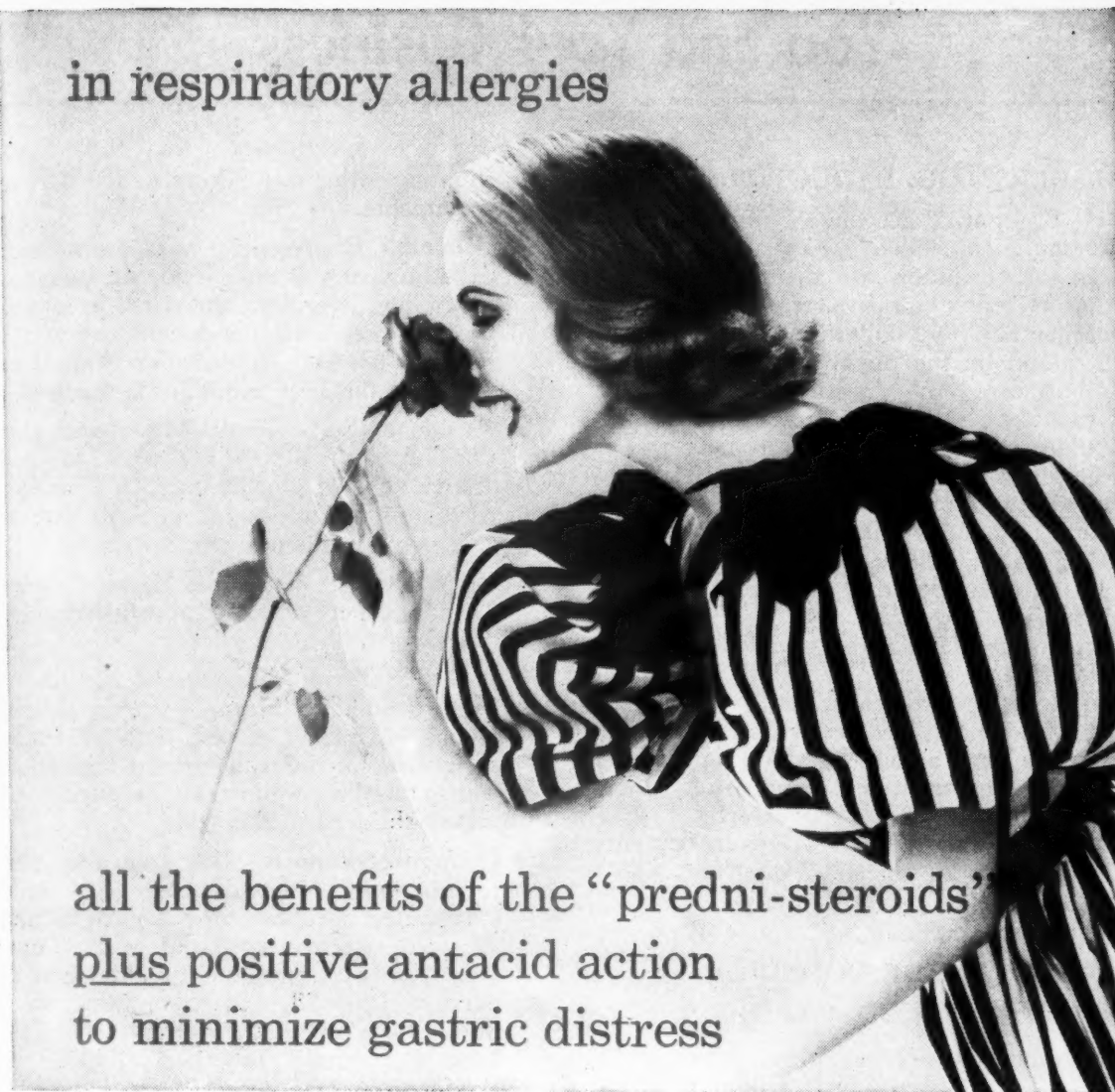
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The U. S. Internal Revenue Service has just issued a regulation, effective August 9, that expenditures for education are deductible if they are for a "refresher" or similar type of course taken to maintain the skills directly and immediately required by the physician in his employment or business. An educational course to be covered should be designed for established medical practitioners to help them keep abreast of current developments in the profession; it should be of short duration; it should not be taken on a continuing basis, and should not carry academic credit. (Education designed to prepare the practitioner to enter a specialty will not be acceptable.)

When a doctor of medicine travels away from home primarily to obtain "refresher" education, his expenditures for travel, meals, and lodging while away from home are deductible. However, expenses for personal activities such as sightseeing, social visiting or entertaining, or other recreation will NOT be allowed.

The MSMS Annual Session (Detroit, September 26-28) presents a "refresher" program.

HIGHLIGHTS OF THE COUNCIL

Session of July 19-21, 1956

One Hundred and eleven (111) items were presented to The Council at its Midsummer Session. Those of chief importance were:

- A vote of **approbation** was extended to E. C. Swanson, M.D., of Vassar, Secretary of the Michigan State Board of Registration in Medicine, for his successful efforts in reorganizing this state board.
- **House of Friendship** at MSMS Annual Session, Detroit, September 26-28. Allocations were assigned to the hospitality booth, to be manned by members of The Council.
- **President Jones** presented the background leading to his July 13 news release objecting to proposed free distribution of Salk polio vaccine to all persons up to nineteen years of age. Dr. Jones explained that as of July 3 the National Foundation for Infantile Paralysis advised that sufficient polio vaccine was available for general distribution; the Foundation urged that private practitioners assume leadership and responsibility for its distribution. Dr. Jones also reported that on July 19 the Michigan legislature in special session adopted a substitute bill allocating only one-half of the amount of state money, as previously requested, for free dis-

tribution, which is adequate for necessary requirements.

- **Councilor Conferences** were authorized to be called by each Councilor for the purpose of acquainting delegates, alternate delegates, presidents and secretaries of component county societies with necessary information that may be presented to the 1956 House of Delegates.
- **President W. S. Jones, M.D., and President-Elect Arch Walls, M.D.,** were authorized to attend an AMA conference in Chicago called to discuss provisions for medical care of servicemen's dependents.
- **Legal Counsel J. Joseph Herbert** presented a progress report on the Kopprasch case in Allegan County.
- A **letter of commendation** was authorized to be forwarded to Messrs. Martin Fleming and Donald M. D. Thurber, both of Detroit, for their work in defeating recent legislation inimical to the best welfare of the crippled and afflicted children of this state.
- **Committee Reports.**—The following committee reports were presented: (a) Maternal Health Committee, meetings of February 22 and June 19; (b) Permanent Conference Committee, June 20; (c) Committee on Michigan Medical Service, June 28; (d) Committee on Mediation, Ethics and Grievance, June 8; (e) Geriatrics Committee, July 10; (f) Committee on Welfare Package Deals, July 11; (g) Beaumont Memorial Committee, July 18; (h) Committee on Health and Accident Insurance Policy Control, July 19; (i) Committee on Medical-Legal Problems (a committee of the State Bar of Michigan), July 19; (j) Committee on Healing Arts Study, July 19; (k) Liaison Committee with Michigan Medical Service, July 21. Report of the three standing committees of The Council (County Societies, Finance, and Publication) were presented and approved.
- **Beaumont Memorial Foundation:** Recognizing that sustained effort is vital, The Council approved the suggestion of the Beaumont Memorial Committee and placed in its annual report a recommendation that the House of Delegates create a Beaumont Memorial Foundation to which all MSMS members are eligible to join at an annual membership fee to be established, and further that all MSMS members be invited and urged to become participants.
- **Allocation of the MSMS Journal numbers** for the year 1957 were made.

(Continued on Page 1040)



THE MILTOWN MOLECULE

A tranquilizer well suited for prolonged therapy

NO ORGANIC

CONTRAINDICATIONS

reported to date

- well tolerated, non-addictive, essentially non-toxic
- no blood dyscrasias, liver toxicity, Parkinson-like syndrome or nasal stuffiness
- chemically unrelated to chlorpromazine or reserpine
- does not produce significant depression
- orally effective within 30 minutes for a period of 6 hours

Indications: anxiety and tension states, muscle spasm.

Miltown[®]

THE ORIGINAL MEPROBAMATE

DISCOVERED AND INTRODUCED by Wallace Laboratories, New Brunswick, N. J.



2-methyl-2-n-propyl-1,3-propanediol dicarbamate—U. S. Patent 2,724,729

SUPPLIED: 400 mg. scored tablets. Usual dose: 1 or 2 tablets t.i.d.

Literature and Samples Available on Request



Announcing

**THE BURDICK
UT-4 Ultrasonic Unit \$395**

This new addition to the Burdick line fulfills the busy practitioner's need for a compact, high-quality ultrasonic unit at a moderate price.

Weighing only 25 pounds, the Burdick UT-4 Ultrasonic unit has an effective maximum intensity of $2\frac{1}{2}$ watts per sq. cm. and an irradiating surface of 6 sq. cm., with 15 watts total output. Complete unit measures only 9" x 12" x 16".

Its right-angle applicator assures ease and convenience, and the 6-foot flexible cable gives the operator ample freedom of movement. A Receptor switch permits pre-setting intensity before starting treatment.

Built in accordance with the recommendations of the American Standards Association, the UT-4 carries the approval or acceptance of F.C.C., Canadian Dept. Transport and Underwriters' Laboratories.

Ask your Burdick dealer for a demonstration in your office, or write us for information.



THE BURDICK CORPORATION MILTON, WISCONSIN

THE G. A. INGRAM COMPANY

4444 Woodward Avenue, Detroit 1, Michigan

HIGHLIGHTS OF THE COUNCIL

(Continued from Page 1038)

- **Nominations for Michigan's Foremost Family Physician.** The Council is to recommend to the 1956 House of Delegates that two Michigan Foremost Family Physician Awards be issued this year, one to J. H. Sherk, M.D. (formerly of Midland) posthumously, and one to a living doctor, said doctor to be chosen by the House in the usual fashion.
- **The Council recommended** that the legislature be asked to make the office of the Executive Secretary of the Michigan State Board of Registration in Medicine a full-time position and that said secretary be paid an appropriate salary commensurate with such work.
- **The Council also recommended** the introduction of a resolution into the 1956 House of Delegates urging an increase in the teaching personnel of Wayne University College of Medicine to permit the admission of fifty more first-year students each year.
- **The Annual Report of The Council** was developed and approved, for submission to the 1956 House of Delegates.
- **The annual joint meetings of the MSMS Council** with (a) Michigan Hospital Association Board, (b) Michigan Crippled Children Commission, (c) Michigan Health Council, and (d) Secretary of Michigan State Board of Registration in Medicine were held. Matters of mutual interest were discussed.
- **Reorganization of Midsummer Session of The Council.** The avalanche of work thrown upon The Council at its Midsummer meetings (four in number), and ways to spare the time of members of The Council at this three-day session, resulted in The Council Chairman's being authorized to appoint a study committee to reorganize the Midsummer Session.
- **A vote of appreciation** was sent to Michigan Hospital Service-Michigan Medical Service and to Mr. L. Gordon Goodrich, congratulating them on the printed program of the Midsummer Session of The Council—a memento of the fiftieth anniversary in practice of Wilfrid Haughey, M.D., JMSMS Editor and also President of Michigan Medical Service.

Only patients with cancer confined to the prostatic capsule are considered good prospects for curative treatment by surgery.

* * *

From routine autopsy studies, it has been shown that evidence of histological carcinoma of the prostate exists in 15 to 20 per cent of men over fifty years of age, even when the disease is not clinically demonstrable.

Meat...

and Its Place in the Diet in Congestive Cardiac Failure

Meat has an appropriate place in the moderate-protein, low-sodium, acid-ash diet advocated in the dietary management of patients with congestive cardiac failure.¹ When extreme sodium restriction is necessary, the meat allowance is regulated accordingly.

Lean meat allows maintenance of a positive nitrogen balance without excessive protein intake, because its amino acids match the quantity and proportions needed for tissue synthesis and repair.^{2,3} In the fresh state as purchased it supplies only small amounts of sodium ranging from approximately 50 to 100 mg. per 100 grams. Due to its acid-ash composition (equivalent to 4 to 38 ml. of normal acid per 100 grams of meat) it may facilitate diuresis.¹

In addition to these important features, meat contributes valuable nutritional factors by virtue of its generous supply of high quality protein, B vitamins, and essential minerals—iron, phosphorus, potassium, and magnesium.

Easy digestibility, a prime requisite of foods eaten by the patient with congestive cardiac failure, is another outstanding quality of meat.

1. Odel, H. M.: Nutrition in Cardiovascular Disease, in Wohl, M. G., and Goodhart, R. S.: Modern Nutrition in Health and Disease, Dietotherapy, Philadelphia, Lea & Febiger, 1955, p. 709.
2. Berg, C. P.: Utilization of Protein, J. Agr. & Food Chem. 3:575 (July) 1955.
3. Best, C. H., and Taylor, N. B.: The Physiological Basis of Medical Practice, ed. 6, Baltimore, Williams & Wilkins, 1955, p. 638.

The nutritional statements made in this advertisement have been reviewed by the Council on Foods and Nutrition of the American Medical Association and found consistent with current authoritative medical opinion.

American Meat Institute
Main Office, Chicago...Members Throughout the United States



Heart Beats

"ECG TEST BOOK" ISSUED BY HEART ASSOCIATION

Issuance of a two-volume "Electrocardiographic Test Book" has been announced by the Michigan Heart Association. The ECG volumes are designed for teaching electrocardiography in the medical schools and for postgraduate study by physicians. The work is edited by Travis Winsor, M.D., Los Angeles.

Included in the first volume of the test book are 119 electrocardiograms, each of which is accompanied by several pertinent questions. There is also a section containing 230 general questions on electrocardiography and an appendix which includes a table of normal values. The second volume contains interpretations and discussions of the electrocardiograms and answers to the questions.

The "ECG Test Book" is the result of a two-year project commissioned by the American Heart Association's Committee on Professional Education. Dr. Winsor was assisted in the preparation of the volumes by thirty-four leading authorities in the field of electrocardiography, including Franklin D. Johnston, M.D., of the University of Michigan, Gordon B. Myers, M.D., of Wayne State University, and Robert F. Ziegler, M.D., of Henry Ford Hospital. These physicians reviewed the work and many of their suggestions were incorporated into the final text.

Copies of the "ECG Test Book" are available from the Michigan Heart Association, Doctors' Building, 3919 John R, Detroit 1. Cost is \$5.00 per set.

HEART OF THE HOME CLASSES SCHEDULED

Classes in time and energy saving techniques for cardiac homemakers will be expanded this year throughout Michigan. It is anticipated that all counties that have not had the program will be serviced this year, thereby completing at least one program in all of the eighty-three counties in Michigan. *The classes are designed as an ad-*

junct to private medical practice and are not competitive with it. No medical advice, diagnosis, treatment or examination is provided through the program. The classes are financed by the Michigan Heart Association and are held in cooperation with Michigan State University and Wayne State University. The schedule of classes is as follows:

Michigan State University

September 18, 25, Oct. 2, 9—Genesee County
September 19, 26, Oct. 3, 10—Genesee County
September 20, 27, Oct. 4, 11—Macomb County
October 16, 18, 23, 25—Alger County
October 17, 19, 24, 26—Luce County
November 6, 8, 13, 15—Ingham County
November 7, 9, 14, 16—Kent County
November 12, 14, 19, 21—Schoolcraft County
November 13, 16, 20, 23—Menominee County
November 19, 26, Dec. 3, 10—Hillsdale County

Wayne State University

September 20, 27, Oct. 4, 11—Ferndale
October 5, 12, 19, 26—Dearborn
October 2, 9, 16, 23—Redford

Doctors of Medicine are invited to refer cardiac patients to the classes. Complete details can be secured by writing to the Michigan Heart Association, Doctors' Building, 3919 John R, Detroit 1, Michigan.

NEW MEDICAL LECTURE KIT AVAILABLE "PREVENTION OF RHEUMATIC FEVER"

A second medical lecture kit designed to enable the doctor of medicine to continue his postgraduate education in the comfort and convenience of his home or office has been made available by the Michigan Heart Association. The new kit is entitled PREVENTION OF RHEUMATIC FEVER, and was prepared by Gene H. Stollerman, M.D., Assistant Professor of Medicine, Northwestern University Medical School. It consists of three twelve-inch long-playing ($33\frac{1}{3}$ rpm) records with thirty-one correlated slides (35 mm.), a table top viewer for slides and a script of the actual discussion. The running time is approximately forty-four minutes. The kit can be adapted easily for meetings by using adequate amplification for the record player and a projector and

(Continued on Page 1048)

Introducing

A.P.C. ^{WITH} Demerol[®] Tablets

for more efficient

CONTROL OF *Pain*

Each tablet contains:

Aspirin	200 mg.	(3 grains)
Phenacetin	150 mg.	(2½ grains)
Caffeine	30 mg.	(½ grain)
Demerol hydrochloride	30 mg.	(½ grain)

Average Adult Dose: 1 or 2 tablets

repeated in three or four hours as needed.

Bottles of 100 tablets. *Narcotic blank required.*

"Such a combination has proven clinically to be far more effective and no more toxic than equivalent doses of any of these used singly."*

Winthrop
LABORATORIES
NEW YORK 18, N. Y.

*Bonica, J.J.; and Backup, P.H.: Northwest Med., 54:22, Jan. 1955.

Demerol, trademark reg. U. S. Pat. Off., brand of meperidine.

SEPTEMBER, 1956

Say you saw it in the *Journal of the Michigan State Medical Society*

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"PREVENTION OF RHEUMATIC FEVER"*(Continued from Page 1046)*

screen for the slides. The Rheumatic Fever Control Committee of the Michigan State Medical Society has approved the kit for use in Michigan. The complete kit is available on a free loan basis by writing to the Michigan Heart Association, Doctors' Building, 3919 John R, Detroit 1, Michigan.

TWO INTERNATIONAL CONGRESSES OF CARDIOLOGY ON FALL CALENDAR

Physicians and research scientists will be welcome at two international cardiologic congresses to be held abroad this Fall. These meetings are the Second European Congress of Cardiology in Stockholm, September 10-14, and the Fifth Inter-American Congress of Cardiology in Havana, November 11-17.

Additional information on the Inter-American Congress of Cardiology may be obtained by addressing the Congress at Apartado 2108, Havana, Cuba. Registration fees may be paid by money order payable to Dr. Luis Ortega Verdes,

organomercurial diuretics
 "...permit ingestion of
 enough salt to make food
 palatable; without them,
 many patients would lose
 their appetites, a conse-
 quence of the salt-free diet
 which has occasionally been
 known to cause serious
 malnutrition."*

*Modell, W.: The Relief of Symptoms, Philadelphia, W. B. Saunders Company, 1955, pp. 265-266.

03156

Congress treasurer. These fees are \$25.00 for full registration, and \$10.00 for associate registration, which is available to members of the registrant's family. Application forms may be obtained from the American Heart Association.

Information on the European Congress may be obtained from Dr. Karl Erik Grewin, Secretary General, Second European Congress of Cardiology, Södersjukhuset, Stockholm, Sweden.

AHA SCIENTIFIC SESSIONS PROGRAM OUTLINED

A tentative program has been outlined for the American Heart Association's Twenty-ninth Scientific Sessions to be conducted in Cincinnati in conjunction with the Association's thirty-second annual meeting, October 26-31.

General sessions, which will be held on three mornings, will endeavor to include those papers of the widest interest to all professional disciplines attending the scientific sessions. Specialized sessions, which will be afternoon events, will encompass those papers of particular interest to the members of the various sections and councils of the Association.

APPLICATION DEADLINES SET FOR 1957 AHA RESEARCH SUPPORT

Applications for support of research to be undertaken during the fiscal year beginning July 1, 1957, are now being accepted by the American Heart Association. Further information and application forms may be obtained from the Medical Director, American Heart Association, 44 East 23rd Street, New York 10, New York.

THINK IT OVER

A harried, high-strung businessman, constantly worried by an over-burden of work he felt responsible to do, had come to his psychiatrist for advice.

"I can't sleep at night, Doctor," he complained, nervously fidgeting with his hat and the arms of his chair. "And I've been nervous and quick-tempered at the office lately. What can I do?"

"I think you'd better follow a new schedule," the psychiatrist advised. "First, plan to complete only six hours of work in an eight-hour day. And second, spend one day each week at a cemetery."

"At a cemetery?" echoed the amazed patient. "What am I supposed to do there?"

"Nothing much," the psychiatrist replied calmly. "Just look around. Get acquainted with some of the men who are in there permanently. And remember that they didn't finish their work either. Nobody does, you know."

—From "The Right Hand"—August, 1956

JMSMS



ORAL PENICILLIN
FOR BETTER
AND MORE CONSISTENT ABSORPTION

"Because of the better and more consistent absorption of penicillin V from the intestinal tract, it would appear that this type of penicillin is preferable to penicillin G when oral administration is to be used."¹

1. Martin, W. J., et al.: J.A.M.A. 160:928 (March 17) 1956.

PEN•VEE•Oral and PEN•VEE Suspension permit new dependability in oral-penicillin therapy—dependable stability in gastric acid, dependable and optimal absorption in the duodenum. "Not being destroyed by acid in the stomach, as is penicillin G, penicillin V remains available in larger amounts for absorption."¹

PEN•VEE*

Oral
and
Suspension

PEN•VEE•Oral is Penicillin V, Crystalline (Phenoxymethyl Penicillin)
PEN•VEE Suspension is Benzathine Penicillin V Oral Suspension



Philadelphia 1, Pa.

Erythromycin in the treatment of osteomyelitis

8/3/55

CASE SUMMARY

On 6/2/55, patient, male, age 28, fell on an old fracture and refractured the middle third of the right femur, superimposed on an old osteomyelitis.

On 7/7/55, the wound was saucerized and a hemolytic *S. aureus* (coag. +) was isolated from the osteomyelitis. Disc sensitivities were: penicillin, 10 units; erythromycin, 10 mcg.; tetracycline, 10 mcg.

On 7/15, the patient was placed on erythromycin therapy 400 mgm. q. 6. h. Patient afebrile after erythromycin started. X-rays showed evidence of healing with callus formation. No septicemia and clinical evidence indicates control of the infection.

On 8/3, the cast was removed and leg recast. Wound was in good condition with minimal drainage.

Diagnosis: fracture middle third of right femur, complicated by osteomyelitis.

Result: erythromycin aided healing of the old osteomyelitis and kept the infection under control.

Specific against
coccic infections

Specific—because you can actually pinpoint the therapy for coccic infections. That's because most bacterial respiratory infections are caused by staph-, strep- and pneumococci. And these are the very organisms most sensitive to ERYTHROCIN—even when in many cases they resist other antibiotics.



Erythrocin[®]

(Erythromycin, Abbott)
STEARATE

With little risk of
serious side effects

Low toxicity—because ERYTHROCIN rarely alters intestinal flora. Thus, your patients seldom get gastroenteral side effects. Or loss of vitamin synthesis in the intestine. Virtually, no allergic reactions, either. *Filmtab* ERYTHROCIN Stearate (100 and 250 mg.), bottles of 25 and 100. **Abbott**



Erythrocin[®]

(Erythromycin, Abbott)
STEARATE

© Filmtab—film-sealed tablets; pat. applied for

AMA Washington Letter

THE MONTH IN WASHINGTON

In terms of actual health bills passed and sums of money appropriated, the 84th Congress which ended just a few weeks in advance of party presidential conventions undoubtedly set some records. Measures ranged from the far-reaching program of disability cash payments to a bill for the commissioning of male nurses in the armed services.

In between are a wide variety of measures which, in the opinion of Secretary Folsom, Secretary of Health, Education, and Welfare, give "promise of immediate and substantial progress on a wide front in the improvement of the nation's health."

Both Mr. Folsom and the President deplored the fact that Congress had not acted on their plan for federal aid to medical schools, but Congress decided this was one of the subjects that needed more study before taking any further action. In addition Mr. Folsom expressed disappointment that nothing had been done on authority for pooling arrangements among small health insurance companies and the long-dormant plan for a health reinsurance fund.

On medical research funds, the administration this session asked for the largest amount of money ever requested in one year. The appropriation finally voted was even larger, some \$170 million. On top of this, Congress in its final hours appropriated nearly \$80 million to carry out new legislation just passed.

Here are the highlights of major health bills approved by the 84th Congress:

Social Security Amendments.—Changes in the twenty-one-year-old social security law now include (1) Old Age and Survivors Insurance payments to disabled workers at age fifty, paid from a "separate" fund; (2) extension of social security to some 250,000 dentists, lawyers, osteopaths and other self-employed persons; (3) lowering of retirement age for social security purposes for women from sixty-five to sixty-two; (4) earmarked payments for medical care of public assistance recipients; and (5) increase of payroll deductions by one-half of 1 per cent and three-eighths of 1 per cent for the self-employed.

Laboratory Research Facilities.—The Hill-Bridges bill for \$90 million in construction grants over three years to public and nonprofit institutions to erect research facilities started out in the Senate as a bill to aid research in crippling and killing diseases, but wound up for research in all "sciences related to health."

Health Amendments Act.—The so-called little omnibus health bill provides for federal grants for training of public health specialists, professional nurses qualified for teaching and administrative jobs and for practical nurses—plus a two-year extension beyond next July 1 of the ten-year-old Hill-Burton hospital program, and special projects grants for mental health studies and demonstrations.

Medical Care for Military Dependents.—A long-sought goal of the Defense Department was enactment of a permanent program of medical care for dependents of armed services personnel either in military hospitals and clinics or through private sources. It is scheduled to begin early in December.

National Library of Medicine.—Another proposal long in the making was the re-establishment of the Armed Forces Medical Library as the National Library of Medicine. For administrative purposes, Congress put it under the Department of HEW, but left up to the seventeen-man board of regents the selection of site—in all likelihood in the Washington area.

Sickness Survey.—Special and continuing surveys on the extent of illness and disability in the U. S., along with medical care being offered have been authorized—the first detailed study of its kind in over twenty years. The work will be done by the Public Health Service.

Water Pollution Control.—The PHS is authorized to make grants to states and communities to help in construction of sewage disposal plants, at the rate of \$50 million a year for ten years.

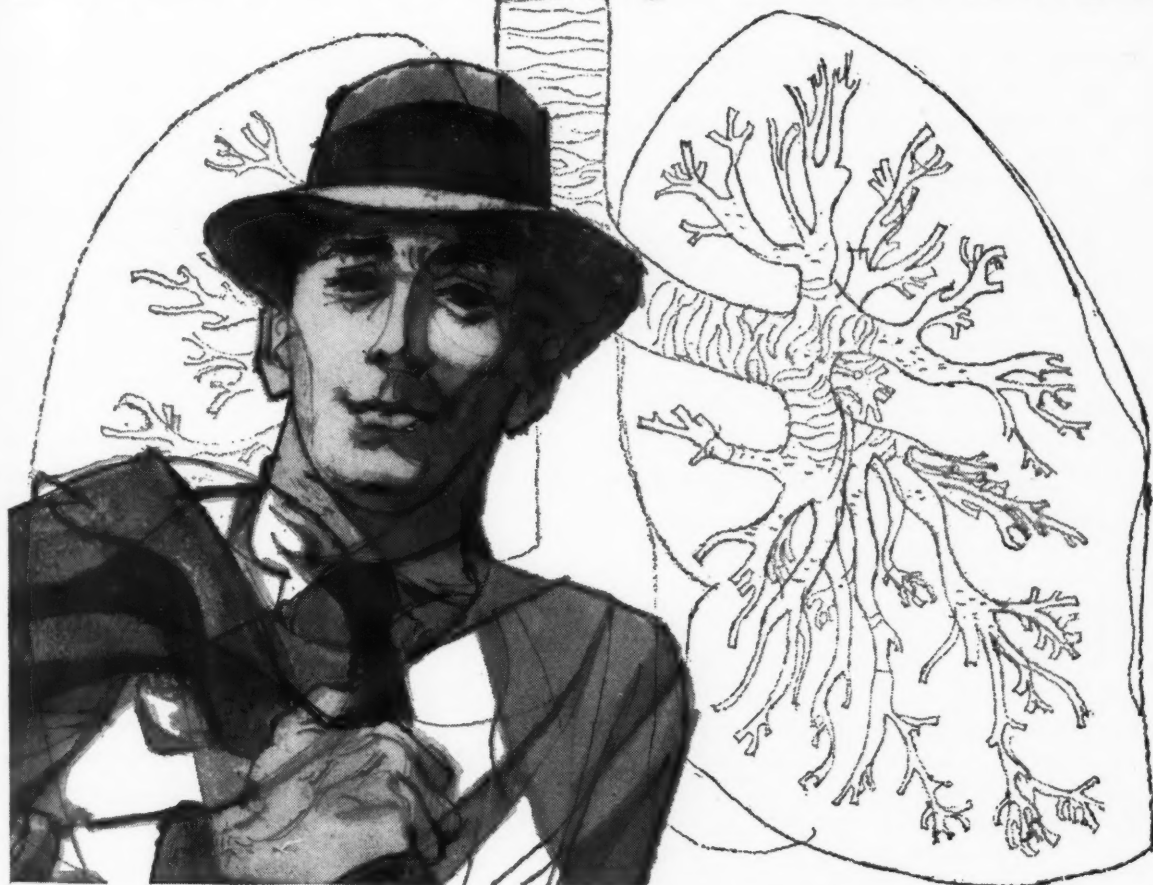
Some other measures signed into law by the President were: establishment of a mental health program for Alaska, budget increases for additional staff for the Food and Drug Administration along with a new headquarters building for modern laboratories, provision of medical care for employes and dependents of the State Department abroad in U. S. military facilities, a \$400,000 fund to finance the holding of the World Health Assembly in this country in 1958 (which is the tenth anniversary of the founding of the World Health Organization) and the commissioning in the armed services of osteopaths.

* * *

NOTES: The new surgeon general of the PHS is Dr. Leroy E. Burney, a career officer in the

(Continued on Page 1054)

BREATHING and BALANCE



in bronchial asthma

Sterane[®]

brand of prednisolone

one of "the best therapeutic agents
now available"*

Supplied: White, 5 mg. oral tablets, bottles of 20 and 100. Pink, 1 mg. oral tablets, bottles of 100. Both are deep-scored.

*Schwartz, E.: New York J. Med. 56:570, 1956.

provides restoration of breathing capacity — Relief of symptoms [bronchospasm, cough, wheezing, dyspnea] is maintained for long periods with relatively small doses.*

minimal effect on electrolyte balance — "in therapeutically effective doses... there is usually no sodium or fluid retention or potassium loss."* Lack of edema and undesirable weight gain permits more effective therapy particularly for those with cardiac complications.

PFIZER LABORATORIES, Brooklyn 6, New York
Division, Chas. Pfizer & Co., Inc.

SEPTEMBER, 1956

Say you saw it in the *Journal of the Michigan State Medical Society*

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PR REPORT

A LIBRARY OF PR IDEAS and PR materials is being organized at MSMS headquarters in Lansing as an important adjunct to the public relations program of the medical profession in Michigan. Under supervision of a professional librarian, the mass of PR tools and source materials gathered by the MSMS PR department over the past ten years or more is being catalogued and stored for reference and use. In addition to such obvious materials as films, movie scripts, radio shows, and PR "how-to-do-it" texts, the library will contain a voluminous supply of background information and literature borrowed from many fields of business and industry but adaptable to use by the medical profession.

When the library is completed, MSMS will have on tap for ready use perhaps the widest compilation of PR source material possessed by any medical organization, state or national. . . . And it will be for your use, Doctor, and the use of your County Medical Society, as well as MSMS.

THE AMA COUNCIL ON RURAL HEALTH is eligible for many compliments upon the two new pamphlets which it has prepared and distributed to leaders of farm groups, state and national. The booklets, prepared for rural groups, are entitled "A Member of the Family—Your Doctor" and "Check and Know." The first is an appeal for every family to get and keep a personal or family physician. The second is a companion piece which deals with the value of a periodic physical examination when it becomes a part of the permanent record in the personal physician's office. Distribution has been made a responsibility of state medical societies, and copies of these two booklets are available through MSMS. They are particularly recommended for Home Demonstration groups of rural women and for such discussion groups as sponsored by the Michigan Farm Bureau.

AFTER THREE YEARS as Associate Public Relations Counsel, A. DeWitt ("Dee") Brewer resigned from the MSMS executive staff on August 15 to become First Vice President of the Mount Clemens Federal Savings & Loan Association. Mr. Brewer was reared in Mount Clemens and was a reporter and assistant editor on the daily newspaper there before he entered the Army in 1942. He came to MSMS headquarters in Lansing from Grand Rapids, where he had served as Public Relations Director of the Chamber of Commerce, United Fund, and Office of Price Stabilization. Before assuming full-time duties

with the Mount Clemens institution, Mr. Brewer is acting as field representative for the Legislative Campaign Committee of the state Republican organization until the November general election.

MSMS WAS HIGHLY COMPLIMENTED for its part in producing a series of successful television programs over WKAR-TV, the Michigan State University station at East Lansing, during the 1955-56 broadcast season. Miss Kay Eyde, producer of the program, formally thanked MSMS in a letter expressing great appreciation for "repeated, generous co-operation." She added: "I feel that an audience which needs to receive the latest information on matters concerning general health and scientific medical advancements profited by the contributions of those who participated." She particularly thanked Arthur E. Schultz, M.D.; James Neering, M.D.; Lawrence E. Drolett, M.D., and F. W. Tamblyn, all of Lansing, for their contribution, as well as E. C. Swanson, M.D., of Vassar and Lansing, Secretary of the State Board of Registration in Medicine.

Miss Eyde extended "best wishes for the continued high standard of service offered by the Michigan State Medical Society."

AMA WASHINGTON LETTER

(Continued from Page 1052)

commissioned corps and for ten years commissioner of health for the state of Indiana. Until his nomination by the President, he was deputy chief of the PHS Bureau of State Services. Dr. Burney received his medical degree from Indiana University.

. . . The Federal government withdrew from the allocation of the Salk poliomyelitis vaccine just fifteen months after the first release of the vaccine, but federal grants to states to help finance inoculation programs continues.

. . . In preparation for a national blood bank directory, the Joint Blood Council with headquarters in Washington launched a nation-wide survey September 1 of all blood banks.

The major mode of spread of cancer of the appendix is by direct extension into contiguous tissues, chiefly the cecum.

* * *

Carcinoma of the appendix is generally considered an extremely rare entity.

* * *

Of all the diagnostic methods available, x-ray appears to be the most effective in discovering early cases of gastric cancer.

Upjohn

Rheumatoid arthritis, rheumatic fever, intractable asthma, allergies ...

Cortef^{*} tablets

Supplied:

5 mg. tablets in bottles of 50
10 mg. tablets in bottles of 25, 100, 500
20 mg. tablets in bottles of 25, 100, 500

*REGISTERED TRADEMARK FOR THE UPJOHN
BRAND OF HYDROCORTISONE (COMPOUND F)

The Upjohn Company, Kalamazoo, Michigan



Editorial Comment

THE PROFESSIONAL SERVICE REPRESENTATIVE

The Professional Service Representative is ordinarily the only contact the majority of practicing physicians have with the Research Pharmaceutical Houses. He has been intensively pharmaceutically indoctrinated so as to impart the story of the product being detailed in the shortest possible time, and with the least irritation to the doctor. The educational background and ethical standard of the Professional Service Representative, especially those of the research houses, is of high caliber. He generally possesses a college degree, usually in pharmacy. He is often an associate member of our County Medical Society, and should be judged as an individual and not as a class. He is far from being a "pill peddler"—a term as obsolete as it is untrue. He is not attempting to impose unwarranted claims for his products upon us, but is only quoting the results obtained by reputable medical investigators conducting clinical trials on new drugs. He performs a real service by acquainting the physician with the pharmacology, the indications and contraindications of new therapeutic agents.

He serves as our "liaison officer" with the pharmacist, making readily available the therapeutic tools we have determined to use in our practice. Misunderstandings concerning "pricing policy" on the prescriptions we write are ironed out by him. Inquiries concerning aspects of the product being detailed beyond his knowledge are forwarded by him to his medical director. The doctor then receives his answer direct from the research department of the pharmaceutical house.

Common courtesy demands that he, as the representative of the creators of the therapeutic

agents we daily use, be accorded a respectful audience when he visits our offices. His time, as well as ours, is also valuable, and he will stay only as long as you indicate. You will be amply and agreeably rewarded by the increased knowledge of the newer drugs thereby acquired.—F. P. RHOADES in *Detroit Medical News*, May 14, 1956.

BELGIAN GOVERNMENT SURRENDERS TO WISHES OF THE MEDICAL PROFESSION

The Belgian government has unconditionally surrendered to the demands of the medical profession to withdraw its attempt to regulate medical care and medical service under its Social Security scheme through legislative status. In addition it has agreed to accept the principle of non-intervention through law and to recognize the conventions agreed upon through the joint effort of representatives of the medical profession and the insurance companies.

In September, 1955, the Belgian government instigated legislative measures which would regulate all activities in medical service and medical care. The Belgian doctors, united in their desire to remain a free profession and to protect the rights of the people receiving medical care under the Social Security plan to receive the best possible medical service available, unanimously opposed the government plan. The united effort of these doctors has now resulted in an unconditional surrender of the government to the doctors, and recognition by the government of the medical profession's plan to provide good medical care and service to the people.—*The Journal of the Indiana State Medical Association*, April, 1956.

MEDICAL MEETINGS AND CLINIC DAYS

A list of known medical meetings and clinic days, sponsored by county medical societies and other physician groups in Michigan, follows:

1956

September 24-25	Annual Session of the House of Delegates (MSMS)	Detroit
September 26-28	MSMS Annual Session	Detroit
September 23 & 28	The Council (MSMS)	Detroit
October 9-13	American Rhinological Society—Annual Session	Chicago
October 11-12	Michigan Cancer Conference	East Lansing
October 17	MSMS Executive Committee of The Council	Battle Creek
October 17	Maternal Health Day, Genesee County Medical Society	Flint
Autumn	MSMS Postgraduate Extramural Courses	Statewide
November 14	MSMS Executive Committee of The Council	Detroit
November 27-30	AMA Clinical Session	Seattle
November	Fall Clinic, Michigan Academy of General Practice	Detroit
December 12	MSMS Executive Committee of The Council	Lansing

1957

May 5-10	Sixth International Congress of Otolaryngology	Washington, D. C.
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The Ingham County Medical Society May Clinic

By L. G. Christian, M.D.,
H. E. Cope, M.D., and
Milton Shaw, M.D.
Lansing, Michigan

IN an attempt to bring current medical information directly to the practitioner of medicine, the Ingham County Medical Society held its first Spring Clinic on April 26, 1928. Two hundred and twenty-seven doctors responded. As far as we can determine this was the first clinic to be held in Michigan under the auspices of a county medical society.

Five years elapsed between the date of this first clinic and the second clinic held by the Ingham County Medical Society. Though the seed of the clinic idea was long in coming into bloom, germination of the idea was not so long delayed. The record shows that in 1931 Doctors Milton Shaw and L. G. Christian proposed that the Society hold an annual Spring Clinic. Successive clinics were held in 1933 and in 1935. From 1935 to the current date the Ingham County Medical Society has had a clinic day each year.

Although the actual date of the clinics has varied between late April and early May through passing years, custom has now fixed the date as the first Thursday in May and an increasing number of practitioners in Michigan mark this date as a "must" on their calendar.

The type of program also has varied from year to year. At various times the clinic has taken the form of a round table or a symposium on a particular subject. The most common and by far the most popular type of program has been one made up of four afternoon speakers and one after-dinner speaker in which the sub-

jects presented have covered widely different aspects of the practice of medicine. Although the subject matter presented in each clinic and from year to year has been varied, the general and specific objective has been the same throughout the years. The Ingham County Medical Society has proposed to bring to the average general practitioner of medicine current and practical information usable in his daily practice of the art and science of medicine.

The list of speakers at the first clinic in 1928 included Doctors Walter C. Alvarez, Joseph C. Beck, James T. Case, Fredrick A. Collier, John Phillips, Miles F. Porter, and Heinrich A. Reye. This list of distinguished gentlemen set the tempo for the calibre of speakers for succeeding meetings. Although speakers have been drawn from the entire geographic area of these United States and from Canada and England, the majority have come from the great reservoirs of medical teaching and practice in the Central States. Cleveland; Chicago; Rochester, Minnesota; Detroit; and Ann Arbor vie statistically with each other for the honor of furnishing the greatest number of speakers. It has been interesting to note that the names of Fredrick A. Collier and Grover Pemberthy appear three times in the records of the clinics and Edward H. Rynearson and Louis Buie twice. Nor can one help but stop and rejoice that we have been given the opportunity to bring

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SEPTEMBER, 1956

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The Patient with Vascular Headache

By Perry S. MacNeal, M.D., F.A.C.P.
Philadelphia, Pennsylvania

DURING the past twenty years the anatomic and physiologic studies of Wolff and his colleagues,¹⁻⁶ and the pharmacologic evaluation of the ergot derivatives beginning with Stoll⁷ and Maier,⁸ have greatly increased the understanding of the mechanism by which pain in the head is produced secondary to intracranial vascular changes. Likewise, new weapons have been made available to assist in relieving these patients of their discomfort. However, there has been a great tendency on the part of many clinicians to group all of the vascular headaches together without any real attempt to separate them into different types or to investigate clearly their clinical causes. This has led to confusion not only in the field of academic research, but also in the field of therapeutic approach. Different authors in speaking of vascular headaches seem to be speaking of entirely different types of syndromes, so that when their results are applied by others the same degree of success is not achieved. The purpose of this discussion is to attempt to differentiate among the important types of vascular headache.

Migraine

Although the word "migraine" is derived from the Greek "hemicrania" and should, therefore, theoretically be applicable to any paroxysmal one-sided headache, it would seem to serve a useful purpose to differentiate a constitutional syndrome which will be described below from other types of unilateral vascular headache and to reserve the term "migraine" for this group. In this way, persons who are reporting clinical observations or therapeutic effects in migraine will be speaking of the same disease. The constitutional disease for which we feel this name should be reserved can frequently be spotted, at least in retrospect, in the history of the patient's childhood. The great preponderance of patients suffering from this disease are female and the family history usually reveals other occurrences of the disease in

parents or siblings. It may occasionally skip a generation, since not all children of migrainous parents develop migraine. In childhood the patient is likely to have been susceptible to motion sickness and to recurrent "bilious spells" characterized by vomiting. Headache at this stage is not a prominent symptom. The menstrual periods are frequently a little late in beginning and tend to be irregular for several years so that they may not become established in a completely cyclic fashion until age eighteen or nineteen. At this age the patient assumes the physical habitus which is characteristic. They are small in stature (almost always less than 5 feet 4 inches), slight in build, with delicate skin and a pallid appearance. They are good students at school and tend to be of the obsessive, compulsive personality type. They tend to be relatively infertile and lactation is usually inadequate after the pregnancy has been completed.

Laboratory studies reveal that the anemia is more apparent than real. There is frequently a borderline low basal metabolic rate (-15 to -20 per cent) which does not respond to thyroid extract. The glucose tolerance curve is characteristically of the flat type with a tendency toward hypoglycemia between the fourth and fifth hour. Actual hypoglycemia spells do not occur, however. Excretion of 17-ketosteroid substances is likely to be at the lower limits of normal (6 to 9 mg./24 hours). There is frequently a relative lymphocytosis.

This patient is extremely sensitive to stresses of all kinds. Deviation in temperature and humidity may cause distress. Bright light is always painful and they are extremely susceptible to odors.

The headache itself is reasonably characteristic. It usually begins at about age twenty to thirty-five. It most commonly follows a period of emotional stress, hunger, the ingestion of alcohol or any unusual experience. It is not particularly related to the menstrual cycle. It most commonly is present on awakening in the morning, but may occasionally awaken the patient from a sound sleep at night. In a small percentage of cases (10 to

Presented at the Twenty-Eighth Annual May Clinic of the Ingham County Medical Society, Lansing, Michigan, May 3, 1956.

From the Pennsylvania Hospital, Philadelphia, Pennsylvania.

20 per cent) it may be preceded by scintillating scotomata or other neurologic phenomenon, such as monoplegia or hemianopsia. The pain itself begins gradually either in the back of the neck or over one eye and builds up slowly over a period of two or three hours. Photophobia is a prominent part of the headache picture. There is no diplopia, no stuffy nose, no weeping of the eye and no vascular changes in the face. The superficial temporal artery on the affected side may be prominent. After several hours, vomiting may occur and the headache commonly diminishes slowly after the incidence of emesis. Polyuria at this time may occur.

Wolff and others have demonstrated that fluid retention and retention of sodium commonly precede the development of the headache and that local tissue edema and hypersensitivity in the painful area are part of the picture. As the headache disappears, the polyuria apparently represents a release of sodium. The pain itself is due to dilatation of the arteries in the basilar portion of the brain or of the middle meningeal artery. Secondly, as the headache persists, tension of neck muscles contributes an extracranial portion of pain.

This type of headache can almost uniformly be relieved by the subcutaneous injection of $\frac{1}{4}$ to $\frac{1}{2}$ mg. of ergotamine tartrate (Gynergen®), provided the injection is administered early in the attack before muscle tension and vascular edema have occurred. However, the inconvenience of injections and the occasional unpleasant side effects of ergotamine tartrate have stimulated the search for other medications. In 1947,⁹ we reported the use of Octin by hypodermic injection for the relief of this pain. Our experience with this material has continued and we believe that it has a good synergistic effect when mixed with Dihydroergotamine. The usual method is to mix 1 mg. of Dihydroergotamine and 30 to 50 mg. of Octin in a single syringe and administer it intramuscularly at the beginning of the headache. This will occasionally produce an unpleasant hypertensive response in patients with unstable vasomotor systems, so that the first dose should always be administered while the patient is under close observation. If significant hypertension occurs, the medication should not be used in the future. It should never be given to any patient with organic heart disease or hypertension. However, with these exceptions, this mixture is eminently satisfactory since the Octin tends to mitigate the

smooth muscle contraction secondary to the ergot.

Of the oral medications reported to date, Cafergot® (Sandoz) is the most effective. Three or four tablets taken at the onset of the headache, with two more taken an hour and one-half later if necessary, seems to us to be the most effective program. However, this is occasionally followed by unpleasant nausea and vomiting of sufficient degree to contraindicate further use of the medication. Rectal medication has been under study by many investigators and the best now available seems to be the Cafergot-PB Suppository. This suppository contains caffeine, 100 mg.; pentobarbital sodium, 60 mg.; bellafoline, 0.25 mg.; and ergotamine tartrate, 2 mg.

In this type of headache, the so-called "histamine desensitization" has been of no value in our hands. Likewise, nicotinic acid, vitamin B₁, vitamin B₁₂, liver extract, riboflavin, cortisone, ACTH, chorionic-gonadotropin, rauwolfia products, Thorazine®, Equanil®, et cetera, have been of no avail in the prevention or alleviation of the headache. The patient can therefore be spared a great deal of expense and inconvenience as well as frequent discouragement if treatment is limited to the relief of the headache when it occurs, rather than to fruitless attempts to prevent it. The headache tends to disappear during pregnancy and after the menopause but the hope of this liberation should not be extended to the patient, since disappointment may be very dangerous.

Allergic Headache

This, likewise, is a unilateral, paroxysmal vascular headache but it bears no other relation to the migraine syndrome described above and cannot be treated in the same way. There is no particular constitutional background and the family history is frequently negative. The disease occurs predominantly in males (about 80 per cent). It is a disease of adult life characterized by "crops" of severe excruciating pain occurring several times a day for a period of six or eight weeks, followed by several months of complete freedom. The most common time for the headache to occur is between 2:00 and 4:00 a.m. It builds up rapidly, reaching its height in ten to thirty minutes, and the pain is excruciating. Patients who have suffered from renal colic and gallbladder colic say that that pain is much less severe than the allergic headache pain. The headache is frequently accompanied either by ptosis or squinting

of the affected eye with inflammation of the conjunctiva. Stuffiness of the nose on the affected side and vasomotor changes in the face are common but not essential to the diagnosis.

Since the pain is of short duration, no medication designed to relieve it is likely to be of much assistance because of the time necessary for drugs to act. Treatment should therefore be devoted mainly to prevention of the headache. This type of headache, in our experience, is always due to ingested food allergens and can be uniformly prevented by discovering the nature of the allergen(s) and their elimination from the diet. This requires an extremely rigid elimination diet of the Rowe type. In evaluating the effectiveness of the diet, it must be borne in mind that headaches will frequently continue for seven to ten days following the elimination of its cause. Therefore the starting point must be a very meager diet which will be followed rigidly for two weeks in spite of continuing headache. This is frequently a very traumatic procedure both for physician and patient, because the initial diet which we recommend consists usually of a single form of meat (preferably one which the patient does not eat frequently), rice, maple sugar and canned pears. Only the patient who has been disabled by severe excruciating headaches is likely to tolerate this diet for the two-week period required, but the potential rewards are sufficiently great so that it should be worth while. At the end of two weeks' time, the patient will usually be free of his headache. At this time new foods are added one at a time. Each time that a new food is added the patient eats that new food three times daily for three days. If at the end of the third day no headache has been produced, this food may be considered "safe" and added to the list from which he may draw at any time. It is our custom to save until late in the program those foods which are most commonly allergenic (chocolate, milk, wheat, onion, nuts and citrus fruits). These allergies are frequently multiple. Likewise, if the headache is precipitated by the addition of the allergenic substance, it should be remembered that this headache is likely to recur for several days. The patient should therefore return to the diet which he was using just preceding the occurrence of his headache and continue that until he has been free for several days before adding new foods. Injections of histamine in our hands, have not benefited these patients.

Hypertensive Headache

The headache accompanying hypertension also belongs in the vascular group. It is presumably due to distention and excessive pulsation of the basilar arteries of the brain. It is not necessarily related to measurable cerebral edema since it occurs just as frequently without objective signs of increased intracranial pressure as it does when those signs are present. This headache is, of course, seen only in patients with hypertension particularly of the diastolic variety. The degree of the hypertension is not necessarily proportional to the degree of the headache. A somewhat similar headache is occasionally seen in patients with arteriosclerosis and marked increase in the pulse pressure even though the diastolic pressure is not elevated.

This headache occurs quite regularly in the morning on awakening. It is felt as a dull, annoying discomfort either in the occipital, vertical or frontal regions. It usually does not show any particular predilection for one side of the head and is not accompanied by nausea or vomiting unless the hypertension is of the malignant nephrosclerotic type with nitrogen retention and increased intracranial pressure. Relief of this type of headache frequently occurs with satisfactory medical management of the hypertension. If conservative attempts to reduce the hypertension have been unsuccessful and if the headache is disabling, this pain in itself may then serve as an indication for sympathectomy. The hypertensive headache almost always disappears following sympathectomy, even if the postoperative correction of the hypertension is not entirely satisfactory.

Single episodes of hypertensive headache will respond to the oral administration of vasoconstricting agents, such as ergotamine tartrate, but these medications should not be used because of the dangers of adding to the vasoconstriction already present. This point is emphasized because occasionally a patient with a mild hypertension is treated with ergot on the assumption that the headache is due to migraine rather than the hypertension. It has been our experience that patients with migraine do not have hypertension.

Menopausal Headache

We choose to apply this term to a paroxysmal vascular headache occurring shortly after the menstrual periods have ceased. Although many headaches occur at the time of the menopause most

of them are of the simple tension variety, and the true vascular headache occurring as part of the general vasomotor instability of the menopausal age is relatively uncommon. When it occurs, the headache itself imitates very greatly the migraine pattern. It is paroxysmal, one-sided and frequently awakens the patient at night. It is frequently accompanied by nausea and vomiting but not usually by scotomata. The pain is very severe. Single attacks can again be relieved by the use of vasoconstrictor drugs in the same way as for migraine, but prevention is much more worth while and effective. The oral administration of small amounts of estrogenic substance in cyclic fashion is uniformly effective if the diagnosis is correct. We recommend from $\frac{1}{2}$ to $\frac{3}{4}$ mg. of Stilbesterol daily for twenty-one days, followed by a ten-day rest period. The dose is then resumed at somewhat smaller amounts and the cycle repeated until the smallest amount which will control the syndrome is ascertained. Usually, after four or five months, the dose can be progressively diminished to the vanishing point and the syndrome does not recur. It should be re-emphasized that most of the headaches which occur at middle age, however, are not of the true menopausal type but are rather secondary to the emotional difficulties of that stage of life. The true menopausal headache never occurs until the menopause is completely established.

Cerebral Aneurysm

Cerebral aneurysm should be suspected in any patient suffering from recurrent unilateral headache which always occurs on the *same* side. Many patients with true migraine or with allergic headache will state that their headache is *usually* on one side or the other, but there will have been occasional episodes when the contralateral portion of the head has been involved. The headache of cerebral aneurysm is also frequently accompanied with objective neurologic signs, such as ptosis of the eyelid or temporary paralysis of one of the extraocular muscles producing diplopia. It is not uncommon for the first warning of cerebral aneurysm to be given by the occurrence

of a subarachnoid hemorrhage. It is a matter for very careful judgment to decide in any patient suffering from recurrent vascular headaches when cerebral angiography may be indicated in an effort to localize the lesion and, therefore, make it available to surgical attack. Our experience with cerebral angiography has led us to believe that it is a relatively safe procedure, since we have seen no untoward results. However, transient hemiplegia has been reported and the risk must be recognized and weighed before this procedure is undertaken. The pain of the headache due to a cerebral aneurysm can sometimes be relieved by the use of vasoconstricting agents so that the therapeutic response should not be employed as a guide to diagnosis.

Summary

It has been our purpose to attempt to differentiate among several different types of vascular headache in order that research studies designed to elucidate the problem may be more properly interpreted. Likewise, proper distinction among the various types of vascular headaches will be of assistance in applying appropriate therapy for the relief of the patients symptoms.

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Obstruction of the Gastrointestinal Tract in the Newborn

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DRAMATIC progress has been made in recent years in the diagnosis and treatment of obstructions in the gastrointestinal tract of the newborn infant. The developmental pathology, the physiology and nutritional requirements of this age group are better understood. The advances made in anesthesiology and in the surgical techniques have changed former hopeless situations to problems that now have favorable prognoses. To improve the survival rate further, earlier diagnoses and surgery are essential, and this requires team work of the highest order during the first two days of life, preferably the first day.

The doctor caring for the newborn has a tremendous responsibility in making a careful physical examination at the time of birth and repeated observations during the first day of life. Abnormalities in swallowing, coughing, respiratory difficulties, vomiting, abdominal distention or inability to pass meconium should receive prompt attention and the cause determined. Inspection, palpation, and percussion with a careful study of the material regurgitated or vomited, and passed per rectum, frequently are requirements for a diagnosis. Radiograph of the chest and abdomen may clinch the diagnosis. The use of barium by mouth in most cases is contraindicated and is definitely harmful, but a carefully given thin solution of barium as an enema may be of great help to rule out a malrotation or obstruction of the large bowel. In pre-operative preparation it is essential to prevent aspiration of gastrointestinal content by keeping the gastrointestinal tract above the obstruction clean and decompressed. Parenteral fluids are administered to maintain nutrition and fluid balance. Blood replacement during surgery has proven of utmost value, and its administration should be begun in the operating room just prior to surgery.

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Atresia of the Esophagus

Atresia of the esophagus should be diagnosed during the first day or two of life. The infant with this anomaly is unable to swallow saliva or

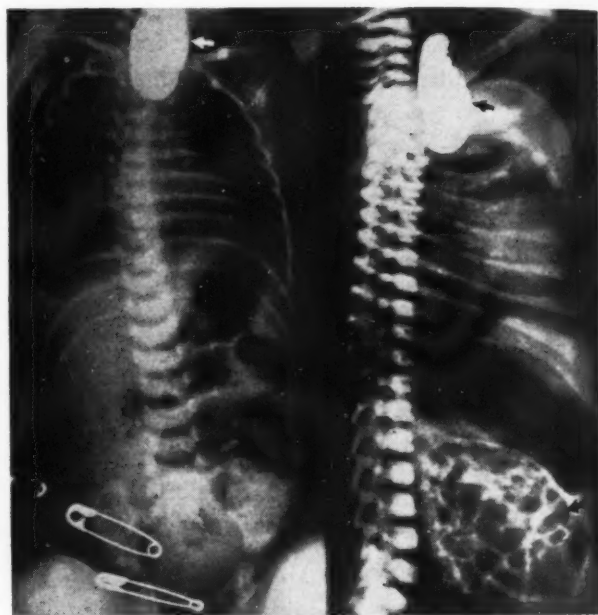


Fig. 1. Radiographs of a day old infant, anterior-posterior and lateral views. Esophageal atresia and tracheoesophageal fistula. Arrows at top of films point to the blind esophageal pouch. The arrow in the lower part of the film, of the lateral view, points to air in stomach and small bowel.

the feedings offered. Gagging, coughing and cyanosis frequently accompany an attempt at taking water or formula, and saliva is seen draining from the angle of the mouth. The diagnosis can be easily made by passing a small soft catheter through the mouth into the esophagus. The obstruction will soon be evident and its location verified by radiograph taken in the anterior, posterior and lateral views after injecting through the catheter 2 to 3 cc. of diodrast (Fig. 1). It is wise to include the abdomen, chest and neck on the films. The atresia of the esophagus most commonly encountered is associated with a fistula between the trachea and the lower esophagus, and the radiograph in such a case will show a blind pouch in

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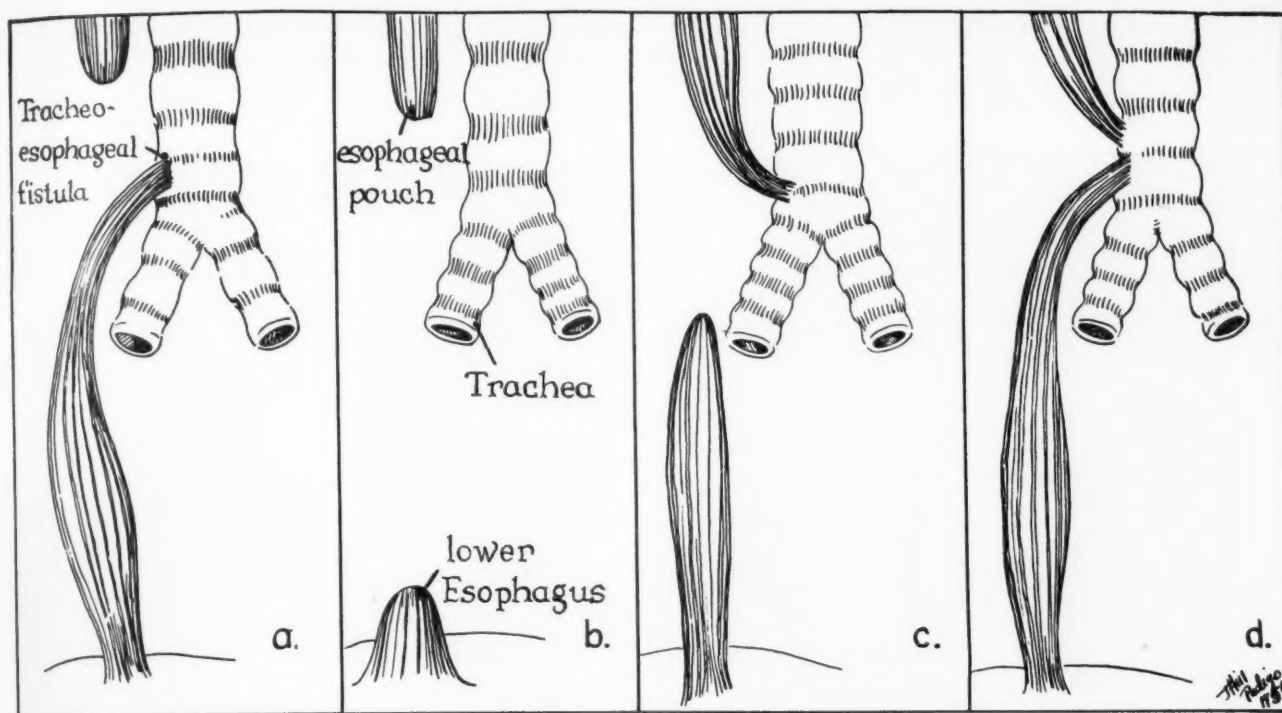


Fig. 2. Anomalies of the esophagus. *a*, esophageal atresia and tracheoesophageal fistula, the common anomaly; *b*, *c*, and *d*, rare anomalies. Knowledge of the entities is necessary for differential diagnosis and treatment.

the upper mediastinum and air in the gastrointestinal tract. If no air is present in the gastrointestinal tract, the lower end of the esophagus is blind, and this case may require more extensive surgical correction than the atresia with tracheoesophageal fistula (Fig. 2). Delay in the diagnosis, and the use of irritating contrast media to visualize the deformity, increases the possibilities of pulmonary pathology.

Aspiration pneumonia is one of the early severe complications of this anomaly. Prevention of this complication prior to early surgery is attempted by keeping the nasopharynx clean of saliva by frequent, gentle aspirations. The child is maintained in a semi-sitting position in an attempt to diminish the possibility of aspirating irritating gastric juice into the lung by way of the tracheoesophageal fistula. Surgical repair of this anomaly during the first two to three days of life, as described by Leven, Haight and others, gives a favorable prognosis and the only chance for survival.

Atresia of the Pyloric End of the Stomach

This anomaly is very rare but must be kept in mind in the differentiation of pyloric stenosis and duodenal atresia. The onset of symptoms occurs within the first twenty-four hours. The infant retains its feeding for short periods and then vomits the formula and gastric contents; no bile is pres-

ent in the vomitus. The symptoms of pyloric stenosis usually occur two to three weeks after birth, and normal stools have been passed, indicating a functioning gastrointestinal tract. Atresia of the pyloric end of the stomach shows no air in the duodenum or in the lower gastrointestinal tract. A radiograph of the chest and abdomen aids in the localization of the distention of the stomach and reveals the absence of air in the small and large bowel. Barium studies are harmful and give no more information than the plain radiographic studies. In preparation for surgery the child's stomach should be kept empty to prevent aspiration of gastric contents and to prevent gastric distention at the time of surgery. Relief of the obstruction is essential in the first two to three days of life.

Atresia of the Small Bowel

The onset of symptoms occurs in the first twenty-four hours, and the bile-stained vomitus is usually most marked with atresias of the duodenum, while distention of the abdomen is greater if the atresia is in midjejunum or ileum. In the early period, peristaltic waves may be seen crossing the abdomen, from left to right in cases of duodenal atresia, or in a varied pattern if the jejunum or ileum is obstructed.

The infant does not pass normal meconium and inspection will show no bile or ingested constitu-

OBSTRUCTION OF THE GASTROINTESTINAL TRACT—FELL

ents of the amniotic fluid. Farber's test will be positive.

A roentgenogram of the abdomen will show the



Fig. 3. Atresia of second portion of duodenum. X-ray film shows dilated stomach, first and part of the second portion of the duodenum. No air is seen in the lower gastrointestinal tract. Barium filling the distended stomach and duodenum would give no better detail for diagnosis and would be of added risk to the infant.

stomach and small bowel distended with air to the point of obstruction but with no air in the bowel below this level (Fig. 3). Barium studies by the oral route give no more information than is gained by the original film, are dangerous, and compromise the life of the infant. A low pressured carefully administered barium enema is informative and helpful, in that it reveals the patency and position of the colon, (Fig. 4).

Surgical relief of the obstruction is best accomplished in the first twenty-four to forty-eight hours; however, attempts at saving the desperately ill older infant are at times rewarding and should be carried out as gently and rapidly as possible.

Obstruction of the Large Bowel

Atresia of the colon is rare except in the rectal and anal region. Inspection at the time of birth should satisfy the examining doctor as to the

patency of the anus and the character of the meconium. If there is no anal orifice, gas will fill the gastrointestinal tract within eight to ten hours,



Fig. 6. A radiograph of a twenty-four-hour-old infant with pneumoperitoneum secondary to a perforation of a duodenal ulcer. Recovery followed surgical closure of the perforation. The x-ray film effectively differentiates the localization of the air.

at which time the infant can be x-rayed (Wangenstein test). The infant is held by his feet, head down, and a thermometer or lead pencil is held at the anal dimple. Films taken in the anterior-posterior and lateral views will reveal the level of obstruction, and the distance to the anal dimple from the air level in the blind end of the rectum. If there is an anal opening and no meconium, digital examination or passage of a small catheter may reveal an atresia of the rectum.

Surgical relief of the obstruction is indicated within the first twelve to twenty-four hours of life, and varies from a simple incision and dilatation of a thin membrane over the anus to a major surgical procedure of mobilizing the blind rectum and bringing it down to create a functioning anal orifice. Fistulae may be present between the rectum and urinary bladder or vagina and may complicate the procedure.

Other conditions causing obstruction of the gas-

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trointestinal tract in the newborn are. (1) Malrotation of the large bowel; (2) stenosis of the small bowel; (3) intra-abdominal or retroperito-

The meconium is normal. In infants with a diaphragmatic hernia, abnormal breathing and chest findings are clearly evident, before the confirma-

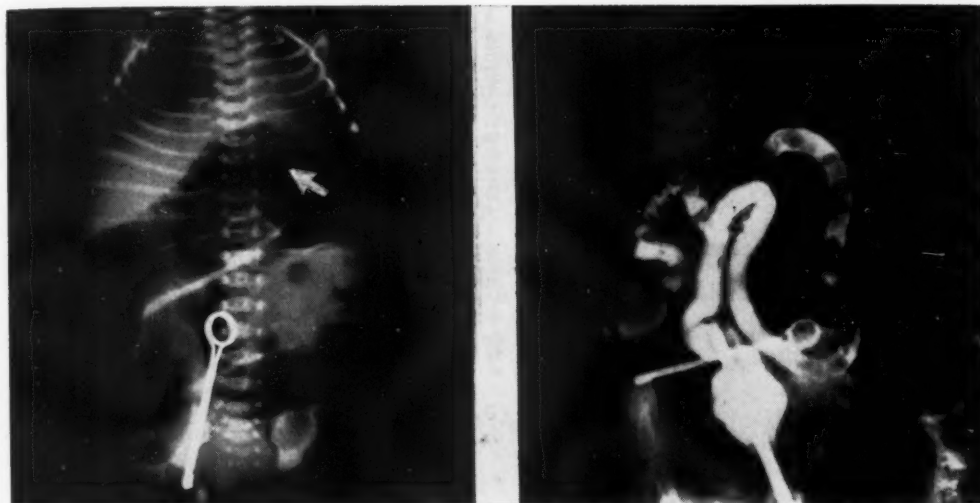


Fig. 4. Films of a twenty-four-hour-old infant with an atresia of the midjejunum. Left: The film of chest and abdomen shows dilated stomach and some small bowel. The diaphragm is pushed up. Right: This film was taken after a thin solution of barium was given by rectum. It reveals the colon to be in a normal position; its lumen is very small and is not functionally connected to the dilated small bowel.



Fig. 5. Radiographs, anterior-posterior and oblique, of an infant showing bowel in the right chest cavity. Barium by mouth is not necessary for diagnosis and is definitely dangerous to the life of the infant.

neal tumors; (4) diaphragmatic hernias; (5) congenital interabdominal bands; (6) perforation of the gastrointestinal tract with pneumoperitoneum; and (7) appendicitis. These entities may be as acute and as early in onset as the atresias, but usually are less severe in symptoms or signs and later in onset. In the first five conditions the bowel is distended above the partial obstruction and there is a pattern of air in the lower bowel.

tory roentgenograms show the bowel within the chest (Fig. 5).

Recently three desperately ill, one-day-old infants with obstructive symptoms and silent, markedly distended abdomens showed by x-ray examination a great deal of intraperitoneal air. One recovered following closure of a perforated duodenal ulcer (Fig. 6); the others died following

(Continued on Page 1091)

Psychophysiologic Gynecology

By Mary E. Giffin, M.D.
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THIS paper reflects the attitude of the physician-turned-psychiatrist who attempts to remember her days of stethoscope and speculum, yet who has subsequently struggled with the analysis and treatment of psychiatric conditions. Her psychophysiologic approach considers the concepts learned in the laboratory, but insists upon equal consideration of the postulates of psychopathology. By means of the research and clinical experience of psychiatrists of many schools of thought, certain basic psychiatric principles have become clear; it is the objective of this paper to relate them to a few chosen gynecologic problems.

Basic Psychiatric Principles

It would be difficult to summarize a comprehensive psychiatric point of view more succinctly than does Ziskind¹ in his book, *Psychophysiologic Medicine*. He wrote, "I stress what is common to most psychiatric thinking, namely that the needs of human beings, when frustrated, result in personality conflicts; that the process of social adaptation is universal, but often unsuccessful; that early life conflicts endure; that persistent conflicts may crystallize into character patterns; that unresolved conflicts may be transmitted into symptoms of organic illness through the autonomic nervous system. These do not explain all psychopathology, yet they suffice as a set of working premises."

Such are the basic concepts held by all psychiatrists. They are principles to be kept in mind, as surely as are the fundamentals of fluid balance or as is the relationship between the secretion of estrogens and the ovarian follicle. For accurate management of all medical and surgical conditions, it must be remembered that the personality in which the illness occurs may determine not only the response to symptoms and treatment but also the very symptoms themselves.

In the proper diagnosis and treatment of *gyneco-*

logic conditions, such an approach is particularly important because the anatomic parts with which one deals are symbols and facts of gender, sexuality and motherhood. If early emotional conflicts have led to insecurity about the feminine role, or indeed bitterness about being born a woman, the pelvis and its organs are particularly adapted to the expression of such feelings. In no other specialty are the psyche and the soma so naturally suited for the expression of the unresolved problems of infancy, social adaptation and sexuality as they are in gynecology. Particularly, the poorly integrated dependency and psychosexual problems of the adult woman find a natural outlet in pain, abnormal function or tissue changes in the pelvis and its contents. The cases to be presented will reflect only a few of the many diagnostic, therapeutic and preventive aspects of gynecologic problems. It is hoped that these few will be extrapolated in the minds of each reader to include patients of your own.

Stress and Disease

In recent years there has been much emphasis on the relationship between stress and disease. All of us recognize that man is vulnerable to other living forces which threaten to invade or to destroy a host, and that he may be injured or annihilated by so-called acts of God. It has been the particular emphasis of psychophysiologists such as Wolff² to point out that "man is further vulnerable because . . . he reacts not only to the actual existence of danger, but to threats and symbols of danger experienced in his past which call forth reactions little different from those to the assault itself."

Because his physical, psychologic and histologic adaptations are limited, man's responses to many sorts of trauma and threats may be similar, depending more upon the individual's past experience than upon the noxious agent. It is of interest also that the *protective* reaction may be far more damaging to the individual than the effects of the noxious agent itself. This is a phenomenon seen in the military spread of tuberculosis as well as in the eruption of a malignant psychosis.

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The thesis that threats and symbols of danger call forth reactions little different from those of assault itself can best be supported by an example. The reaction of human skin to a blow and to the threat of a blow has been neatly illustrated by the experiments of Graham³ among persons suffering from hives. In his experiments we see reflected the synergistic effect of simultaneously introduced chemical and emotional stimuli upon capillary activity. Careful studies of blood flow in the vaginal wall have been carried out by Duncan and Taylor⁴ in which changes similar to those seen by Graham have been produced. Such experiments are laying the groundwork for more accurate understanding of the role of emotional conflicts in pelvic congestion.

There remains still to be done work of a similar nature on uterine vessels and glands, but it seems safe to postulate that similar kinds of responses will be observed. It seems clear to the psychiatrist that women with psychosomatic gynecologic problems have experienced not only the usual insecure intrafamilial problems common to all neurotic patients but specifically that they have been lacking in a close relationship to the mother—a solid identification with the mother-figure is, of course, necessary before the adult feminine role can be accepted without mixed feelings.

As is true of all psychosomatic illnesses, there must then occur a precipitating life situation, acting as does a single chemical crystal upon a supersaturated solution—the experience of this stress precipitates out of solution basic conflicts and leads to pain or dysfunction which may then seem as insoluble as the chemical solid of the laboratory. Such stresses, among patients with gynecologic difficulties, seem always to be ones which make particular demands upon the patient to function specifically as a woman. Frequently, it is pregnancy, sometimes sexual demands, nursing or changing social responsibilities. By comparative studies among persons in whom, for instance, hives and pelvic congestion develop, we may eventually be able to delineate the specific emotional factors in symptom choice of patients with gynecologic disorders.

Let us now attempt to correlate laboratory and theoretic material with clinical conditions. We shall discuss problems in interviewing, examination and diagnosis as exemplified by patients with pain in the right lower abdominal quadrant, post-coital bleeding, pelvic pain and pruritus.

Interviewing

For the psychophysiologically oriented, history taking is an all-inclusive project. For instance, the characteristics of a pain pattern, its intensity and relief must be correlated with the situational setting and its personal meaning.

Case 1.—A twenty-one-year-old, single registered nurse complained of intermittent pain in the right lower abdominal quadrant for three years, with increasing severity in the three weeks prior to her visit to the clinic. The episodes had occurred about every two weeks, and lasted from a few hours to several days, with extension into the right thigh and aggravation by exercise. There had been no associated vomiting until two weeks prior to her admission, but since then it had been continuous, as had the pain. Narcotics had offered the only relief; three laparotomies had been of temporary benefit only. From the time of the last surgical procedure pain had been almost constant, and the patient's nursing career was now jeopardized because of frequent absences from duty. There had been no diarrhea, jaundice, fever, chills or erythruia, and there were no radicular characteristics to the pain.

Physical examination reflected the recent loss of 20 pounds, and there was marked deep and superficial tenderness over the scar in the right lower abdominal quadrant, with some associated muscle spasm. Rebound tenderness was very marked, with referral to the right lower abdominal quadrant. Pelvic examination revealed a few nodules in the cul de sac and thickening of the parametrium, particularly on the right, where a 2-cm. ovarian cyst could be palpated. Results of physical examination otherwise were negative. Urinalysis, routine laboratory studies and roentgenograms of the thorax, lumbar part of the spinal column and colon disclosed no abnormality. A roentgenogram of the kidney, ureter and bladder and an excretory urogram likewise revealed nothing significant. Additional surgical procedures were considered with a view toward removal of the right ovarian cyst. In view of the previous multiple surgical procedures, however, psychiatric inquiry was requested.

Psychiatric examination revealed a very bland, personable young woman who described her surgical procedures in exquisite detail. She cooperated unwillingly during the psychiatric interview, but she did remember that her first pain actually had occurred two years prior to the appendectomy. At first she said that no unusual events had occurred at that time. Later, however, she recalled that her attack of pain had coincided with the fact that her adopted brother had left home; she had felt lonely and had become nauseated; pain gradually developed in the right lower abdominal quadrant. She had remained symptom-free until two years later, when she awakened with nausea and vomiting, later associated with pain in the right lower abdominal quadrant for which appendectomy was performed within twenty-four hours. A normal appendix was found. With considerable difficulty she recalled that the day before that attack she had received word that her adopted brother was engaged. After the appendectomy the pain continued intermittently for

the next two years, "for no apparent reason," although she did smile when she recalled that the severe attack leading to her second laparotomy had precluded her attendance at her brother's wedding. Finally, she recognized that subsequent severe attacks were consistently associated with experiences in her brother's life about which she had mixed feelings. Three weeks prior to coming to the Mayo Clinic she had received news of the birth of a niece, an event which presumably pleased her. The long-distance call conveying the news to her, however, was interrupted by an episode of vomiting; there followed the pain which caused her to seek examination.

Subsequent psychotherapy sufficed to correlate the feelings of the patient with early sex play and an intensely close relationship between herself and the adopted brother. It was of interest that the pain subsided as soon as definite psychiatric interviewing was begun, and that it returned on two occasions—both of which coincided with interviews in which she abreacted her confused and intensely mixed feelings for her brother. Since the time of psychotherapy she has been symptom-free, and subsequently has married, apparently successfully. Additional pelvic examinations have revealed no increase in size of the ovarian cyst.

Comment.—This is an example of a young woman who had undergone much surgical treatment, and in whom discomfort in the right lower abdominal quadrant reflected painful emotion about the loss of a brother to whom she had been pathologically close. Careful interviewing revealed a time relationship between the onset of attacks and particularly disturbing contacts with her brother. Subsequent psychotherapy permitted understanding of basic problems with the father which set the stage for difficulties with the brother. Such treatment precluded the necessity for further surgical treatment and permitted a more adequate adjustment for this talented and intelligent girl. Her children may have been saved a neurotic adjustment as well.

Examination

The psychophysiologic approach also can be applied to examination per se.

Case 2.—A forty-nine-year-old woman presented herself for examination because of bizarre seizures. The initial examiner was startled when he found that a major attack was precipitated by his attempt to conduct a pelvic examination. The seizures were sufficiently bizarre to stimulate a request for psychiatric examination early in the course of the studies done for the patient. This revealed a very traumatic background, including a sexual attack by an orphanage physician when the patient was seven years old. There was a history of postcoital bleeding; careful gynecologic examination obviously was necessary. In the tradition of

psychophysiologic medicine, the gynecologist performed the examination while the psychiatrist encouraged the patient to ventilate unpleasant memories which came to mind during the procedure. With considerable depressive, angry affect, the patient recalled the cruel sexual attack on the part of the physician and the brutal whippings which she had received at the hands of the orphanage governess—even for such normal physiologic processes as menstruating. The pelvic examination was satisfactory; no seizure occurred and the patient shared considerable affect. A later examiner, skeptical of the efficacy of emotional abreaction, started to perform a pelvic examination, only to find it necessary to call the neurologist to control the hysterical seizures. The psychiatrist later interviewed the patient about her fears during this examination; she frighteningly commented on the angry look on the physician's face and the fact that "I seemed to be being blamed for something which I hadn't done." These were succinct reflections of the angry parent-figures of her childhood and of her role, not merely in relationships in general. She now shared the fact that she had been subjected to incestual rape at the age of six years, and she reported that she had been blamed by the father for having led him on, the usual situation in such cases.

Comment.—Most patients fortunately have less traumatic backgrounds and less bizarre symptoms than the woman in this case. However, the principle remains the same. Rarely does a patient become more relaxed by an order to do so. Simple conversation, or in special instances, inquiry into the fears and associations of women such as this patient permits more adequate pelvic examination.

Diagnostic Problems

Diagnostic problems of course remain a major concern to us all. Awareness of psychophysiologic interchange frequently leads to more accurate evaluation. Three cases will reflect this fact.

Case 3.—A forty-year-old woman who complained of constant pain in the pelvis and thighs, associated with dysmenorrhea and dyspareunia, presented herself for diagnosis. The uterus was found to be irregular and slightly fixed anteriorly; general pelvic tenderness was noted. A diagnosis of adenomyomatous uterus was made, but surgical intervention was considered unwise in view of the history of previous interventions, and the poor menstrual and sexual adjustment of the patient.

Psychiatric interview revealed a large, deep-voiced woman, with masculine gestures who took obvious pleasure in the fact that she carried as much of a load as her husband in the family lumber business. She related a typical tomboy history and talked of the menarche as "the greatest scare of my life." Sexual intercourse had always felt like trauma—"as if I were being torn apart"—and there was always associated vaginal spasm. Because of the severity of dysmenorrhea she had under-

gone numerous surgical repairs, dilatations and curettages, and finally presacral sympathectomy had been done, all without relief. There had been three miscarriages, each followed by deep depression, and at the interview she verbalized guilt about living with her husband, since she could not have children. It was of interest that her first spontaneous comment about her father was that he loved babies, and then, with tears in her eyes, she said she did not think he could have lived without an infant around the house—there had been thirteen. She recalled her attempts to be like her father and her conscious wish to be a boy, and then her resolution of the conflict by her awareness that "at least, women can have babies." She never had liked housework, although she had always thought that a baby around the house would change things. With great seriousness and amazing accuracy she said, "I guess the only reason I've accepted being a woman at all is that a woman could have children—but not me, I guess."

It seemed reasonable that the pain of this woman was merely a menopausal exaggeration of the long-term difficulties in feminine identification; now, with the advent of the menopause, she knew she never would have babies. Treatment was directed toward avoidance of unnecessary surgical procedures and giving her some limited understanding of important interpersonal relationships. She reported, a year later, that her symptoms were less distressing, and that her marriage seemed happier since she had left the conduct of the lumber business to her husband.

Some of the most difficult diagnostic problems are those involving burning or pressure feelings within the pelvis.

Case 4.—Recently a thirty-one-year-old woman was referred from Alaska by a general practitioner for, as she said, "surgery to cure all my troubles." She complained of a sensation of pressure in the lower part of the abdomen, worse at the time of menstruation. In this instance the gynecologic consultant found no abnormalities in the pelvis, and psychiatric referral was made. The patient was suffering from an acute anxiety state coincident with a most unhappy marriage, in which a wartime romance had resolved itself into life on an Alaskan island, with essential sequestration with the three children; the final blow had been a severe beating, including kicks in the stomach, at the hands of her childishly immature, sailboat-loving husband. Simple ventilation of her anxieties and clarification of what she considered to be the essentials for a continuing marriage were sufficient to clear the symptoms. Of course, many problems still remained, but with proper ventilation physical perception of pain was converted back to conscious anxiety, in which condition it could be dealt with more constructively.

Case 5.—The foregoing case is a far cry from the somatic delusions presented by a forty-four-year-old registered nurse who complained chiefly of vaginal itching. When she was asked to elaborate, she told of itch-

ing which seemed to move up the back, then to the top of the head, down the forehead and out the right nostril. She described the use of a magnifying glass to identify a spiral bug which extruded from both the rectum and the nostril and which looked like the spirochete of syphilis. She also complained of water "flowing through the muscle planes, collecting in her right hand and erupting in a water blister." Of her menstrual periods she said that "they can't be regular menses; the blood's just oozing through my vaginal walls." As a final complaint she said there was "pus dripping from the rectum, like a Murphy drip."

This woman had undergone laparotomy for "intestinal obstruction," anterior resection of the colon, appendectomy and finally perineorrhaphy for relief of the pruritus; she now demanded scraping and cauterization of the vagina and rectum for the presumed discharge. The bizarre and fixed nature of the complaints, and the results of psychiatric examination of the mental status indicated a paranoid reaction with delusions which precluded helping this patient by any gynecologic procedures. In fact, it was indicated that even minimal surgical tampering might lead to a psychotic episode. An effort, however, was made to acquaint her with the psychologic basis of her symptoms. Angrily and superciliously she said, "You can think that's my trouble if you want—but right now you've got yourself an invitation to my autopsy."

Comment.—This case reflects the bizarre descriptions of somatic delusions presented as physical symptoms by many ambulatory psychotic patients. Careful medical and gynecologic examinations must of course be carried out, but medications, injections and surgical procedures for relief of such subjective discomfort not only will not help but may precipitate psychotic behavior sufficiently flagrant to necessitate institutional care.

Summary and Conclusions

The examples given are but a few of the psychiatric aspects of gynecology. I have chosen cases primarily of a psychiatric nature, but merely for the sake of emphasis. Equally important are the truly psychosomatic conditions, such as dysmenorrhea, or those in which a psychiatric illness coexists with a serious organic condition of the pelvis. Patients with such conditions require a combined diagnostic and therapeutic approach in which proper quantitated attention is given to emotional problems, organic changes, medication, psychotherapy and surgery.

My emphasis has been on the psychophysiologic approach to gynecologic problems. I do not urge less emphasis on the soma, but rather, more on the psyche, and particularly upon the individual

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The Open Airway

By Egbert H. Fell, M.D.
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EVERY doctor, regardless of his specialty, who recommends or performs surgical procedures, should be concerned with the patient's airway and the ability of the patient to have a free exchange of gases as in a normal respiratory system. This is essential before and during surgery so that no untoward results occur. The co-operation of the surgical and anesthesia services in each hospital in the study of the importance of the open airway will do much to lower the morbidity and mortality of surgical patients. Most hospitals do not have an organized experimental laboratory, but one can easily be set up for this important study.

Intratracheal intubation of the dog is essential and, after the chest is opened, positive pressure is maintained by the anesthetist. For demonstration purposes a midline, sternal incision is best. The pericardium is opened, completely exposing the heart and region of the great vessels. The anesthetist will now play the important part in the demonstration. Attention is called to the free airway and the bright red color of the blood and the well oxygenated appearance of the cardiac muscle, lungs and other tissues. Various methods of producing obstruction to the free exchange of oxygen can then be tried showing how easily and rapidly cyanosis and cardiac irregularities develop. When the tracheal catheter is completely occluded, the heart rate speeds up, cyanosis develops, the heart dilates and slows. One marvels that the heart does not rupture, it becomes so distended and cyanotic. If at this time the airway is opened and oxygen is delivered to the lungs and the waste products removed, a dramatic response is seen. The heart receives oxygen and at once it renews its work with great vigor, cyanosis clears, and the heart size returns to normal. The importance of this open airway to the cyanotic, dilated heart that is at the point of arrest has been most beautifully shown.

The airway, again, should then be completely

closed off allowing at this time the heart to pass through the stages mentioned to a complete arrest. The heart will be markedly dilated, cyanotic, and without contraction. When allowed to stay in this condition one-half to one minute, an open airway alone may not be sufficient to resuscitate the heart action. Manual compression of the heart should then be started so that the heart is completely emptied by forcefully compressing the heart and then releasing it, thus allowing the heart to refill. Just as soon as it refills to normal size, rapid vigorous compression should be repeated. Systole and diastole must be continued by compression and relaxation of the hand or hands so that good color returns to the tissues and a pulse can be felt in the peripheral vessels. The arrest may be overcome in two or three compressions, or a considerable length of time may be required to restore cardiac rhythm.

Careful observation of the cardiac muscles is essential to differentiate between complete cardiac arrest and ventricular fibrillation. The appearance of the fibrillating ventricles has been described in various ways: worm-like motion of the muscles, independent motion of each muscle bundle, so that no function of the ventricles occurs. When ventricular fibrillation is seen, cardiac compression must be instituted until the defibrillator is ready to function. (A defibrillator should be a part of the emergency equipment of each surgical department.)

Ventricular fibrillation may not occur following the experiment described, and in our experience an electric shock may be required to cause the heart to go into ventricular fibrillation. This shock is produced by clamping one electrode to the neck and the other to the groin of the dog and allowing the electric current received from a wall plug to pass through him, or it can be administered by way of the defibrillator. Two or three shocks may be necessary in the larger dogs to produce fibrillating ventricular muscles. When this occurs it is easily seen that the heart is not functioning, yet all muscle fibers are in independ-

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Urologic Aspects of Hypertension

By William J. Engel, M.D.
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IT is now generally accepted that hypertension is not in itself a disease, but rather a symptom produced by a variety of conditions. Like fever it has many causes, and like fever it returns to normal if the cause is found and corrected. Careful search for the cause is, therefore, most important and proper studies should be carried out before resorting to the new antihypertensive drugs which have recently appeared on the market.

Cases of hypertension fall into three large groups: (1) Essential hypertension which includes the large number of cases of as yet unknown cause; (2) Renal hypertension which is due to specific demonstrable renal disease of varied type; and (3) Nonrenal hypertension which includes that due to adrenal tumors, neurogenic causes and vascular lesions such as coarctation of the aorta. The urologist is concerned particularly with the renal hypertensions and those cases due to adrenal tumors, notably pheochromocytoma.

Richard Bright, as far back as 1827, first suggested the relationship of arterial hypertension to disease of the kidney, and in 1879 Grawitz and Israel by partial nephrectomy in rabbits produced hypertrophy of the heart which they attributed to hypertension. In 1905, Passler and Heinke confirmed these findings by repeating this procedure in dogs. Clinical interest in renal hypertension may be said to have started as the result of the experimental work of Goldblatt in 1934.

Working with dogs and monkeys, he showed that when the renal artery on one side was partially occluded by a specially devised clamp, hypertension resulted which usually tended to return to normal after a time, although in some instances it persisted for as long as two years. Removal of this ischemic kidney resulted in the return of blood pressure to normal. Constriction of both renal arteries or constriction of one side with removal of the opposite kidney resulted in

sustained elevation of both the systolic and diastolic pressures of the blood. Hypertension in such experimental animals occurs without detectable diminution in renal function. This illustrates the difficulty in detecting these cases clinically by present renal function tests, as we shall illustrate with subsequent cases.

That the ischemic kidney is responsible for the elevated blood pressure is indicated by the following facts:

1. If the ischemic kidney is removed, the blood pressure promptly returns to normal; and the same is true if the clamp is removed from the renal artery.
2. If the kidney is transplanted to the neck or groin and then rendered ischemic, high blood pressure still results.
3. An ischemic kidney transplanted into a normal animal produces an elevated blood pressure.

Two possible mechanisms were postulated to produce the hypertension: (1) Nervous reflex affecting the general vasomotor apparatus, and (2) a humoral mechanism which postulates the formation of some pressor substance by the kidney which gets into the general circulation.

By a variety of experiments, Goldblatt, Page and others disproved the nervous mechanism. The humoral mechanism is now generally accepted in renal hypertension, the elevated blood pressure being due to the presence of vasoconstrictor substances in the blood.

The present-day hypothetical concept of the mechanism is as follows: With renal ischemia or under certain other conditions such as shock, the kidney elaborates renin which is probably produced in the renal tubules. It is a protein and has no vasoconstrictor activity of its own, but it acts on renin substrate (hypertensinogen) to produce angiotonin (hypertensin) which has pressor and vasoconstrictor activity due to direct action of the muscle of the arterioles. Angiotonin in turn is destroyed by aniotonase (hypertensinase). A pressor and vasoconstrictor substance is

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present in the renal venous blood of animals made hypertensive by partial constriction of the renal arteries and also in the venous blood of the acutely ischemic kidney.

Another experimental method for the production of hypertension which is of particular interest to the urologist was demonstrated by Page in 1939. He wrapped the kidney of animals with cellophane which resulted in the formation of a dense, thick, fibrous hull around the kidney. Hypertension in the animals resulted which usually was relieved by removal of the kidney. Page pointed out that the hypertension did not result from compression of the renal artery but rather from changes in intrarenal hemodynamics produced by the firm, unyielding hull. He has suggested that perhaps a certain "pulsing" of the kidney is necessary for normal function and interference with this may be the cause of hypertension. The clinical implications of these important experiments will at once be apparent, especially to the urologist.

Hypertension is due to increased peripheral resistance to outflow of blood. As the result of this resistance, there is an increase in diastolic blood pressure which represents the residual impelling force in the circulation during cardiac diastole. Invariably there is an associated elevation of the systolic pressure but the essential criterion is an elevated diastolic pressure. Hypertension may be said to exist when the diastolic pressure is in the range from 90 to 100 mm. Hg or higher.

The experimental work of Goldblatt stimulated great interest and perhaps hyperenthusiasm to apply it to the human patient with hypertension. Many reports appeared on hypertension associated with unilateral renal disease and response to nephrectomy. After almost twenty years the matter has run the gamut of clinical test and sober evaluation, and certain generalizations seem justified:

1. In many patients the exact counterpart of experimental hypertension exists and permanent relief may follow nephrectomy.

2. Good statistical evidence would seem to indicate that the incidence of hypertension in patients with urologic disease is no higher than that in the general population. It should be pointed out, however, that a considerable number of the former group (perhaps 25 per cent) will

enjoy return of the blood pressure to normal after surgical removal of the diseased kidney.

3. In parenchymal disease of the kidney, nephrectomy should be advised on the basis of the existing disease rather than on a promise of return of normal blood pressure.

4. In the case of certain vascular lesions, however, it now appears that the reverse may be true, and nephrectomy may be necessary for the cure of the hypertension even with an apparently normally functioning kidney.

5. In certain selected cases it may be possible to restore normal blood pressure by means of renal arterial graft to correct the arterial obstruction.

As we have indicated, abnormal elevations of blood pressure may be associated with many different diseases. We are concerned in this discussion with those causes which careful urologic examination may help to identify and for which appropriate surgical intervention may hold promise of cure. Most of these will be examples of renal hypertension arising from disease in one kidney, but we shall also include adrenal tumors, particularly the pheochromocytoma, in which the surgical treatment as well as certain diagnostic measures can best be performed by the urologist.

Methods of Examination

It is assumed that each patient will have a careful and complete physical examination including a funduscopic eye examination. More than one blood pressure determination should be made; and in some instances of suspected coarctation of the aorta, pressure determinations should be made in the legs as well as in the upper extremities.

All patients with hypertension should have an intravenous urogram. This will provide a visual estimate of renal function and may point to the presence of unilateral kidney disease. In viewing the urogram films we have learned to attach some importance to the total renal mass, especially if it is asymmetrical. Cystoscopy and retrograde pyelograms will be necessary in many cases.

Ureteral catheterization with differential function, by means of dye excretion such as PSP, can be done although we have largely abandoned this method. An important aid, especially if a circulatory defect of a kidney is suspected, is a determination of electrolyte concentration and urinary osmolarity of urine samples collected from

each kidney. Diminished values on one side speak in favor of an obstructive arterial lesion. This may be of importance for we have seen instances where the urogram was apparently normal in the presence of malignant hypertension due to thrombotic occlusion of two main branches of the renal artery.

Of greatest value in the recognition of renal arterial obstruction is the angiogram obtained by means of translumbar aortography. We have employed the simple syringe technique and do not employ large quantities of contrast medium. We have used each of the various radiopaque materials but recently have preferred Hypaque® as being the least irritating. Except in extremely irritable and high-strung patients the procedure can be readily performed using local anesthesia. After the aorta has been successfully punctured, 10 cc. of a 25 per cent solution of Hypaque is quickly injected and a film made to check the correct location of the needle. If the needle is in the proper position, 10 to 15 cc. of 50 per cent solution is then injected for the final films. The renal angiogram is rendered more distinct by compression of the great vessels of the lower abdomen by means of a pressure pad and belt which can be tightened immediately before the final injection is made.

An additional refinement in technique has been reported by my associate, Doctor Poutasse,¹ which may be applicable to some patients with extremely elevated blood pressure. In such cases the contrast medium may be swept away so rapidly that the renal vessels cannot be adequately filled. In these patients the blood pressure may be reduced by using vasodepressor drugs such as sodium nitroprusside, Apresoline® (Ciba), or intravenous Arfonad® (Hoffmann-La Roche), immediately before the aortogram is made. More satisfactory renal angiograms may be obtained in this manner.

The urologist may be called upon to render assistance in the diagnosis of hypertension due to pheochromocytoma. In our clinic preliminary tests by means of adrenolytic and provocative agents are carried out in the medical section. The former consists of the intravenous injection of Regitine®, and a fall in blood pressure of more than 35 mm. systolic and 20 mm. diastolic is generally considered significant. For the provocative test, histamine is injected intravenously and a positive test shows at least a 55 mm. systolic and 35 mm. diastolic rise above the base-line

blood pressure previously established. This test has certain dangers and should *never be employed if there is hypertension present.*

If these tests as well as the clinical picture indicate strongly the probability of a pheochromocytoma, we are still left with the problem of locating the tumor. Downward displacement of the kidney on the urogram may be an indication, especially if there is a soft-tissue mass above the kidney. A planigram may reveal the outline of a tumor. In most cases, however, air contrast studies should be carried out. We have preferred presacral oxygen insufflation which gives bilateral visualization and in one case a proved bilateral pheochromocytoma was correctly identified in this manner. Air contrast study is not "fool-proof" and false-positive shadows may be found.

Clinical Considerations

Many unilateral renal diseases appear to be capable of causing hypertension. Of the infections, we have seen it with tuberculosis as well as pyogenic infections with or without calculi. Chronic pyelonephritis often is associated with hypertension, especially with the contracted type of kidney. Hydronephrosis in our experience rarely is the cause of an elevated pressure although we have recently seen an example in a child in which the hydronephrosis was associated with recurring urinary infection. Likewise, we think of hypertension as not being associated with renal tumors, although such cases are reported.

Congenital anomalies of the kidney may be associated with elevated blood pressure. Polycystic disease of the kidneys will occur with hypertension in 60 to 75 per cent of cases. Here, because it is a bilateral disease, there is of course no opportunity for surgical correction. The congenital hypoplastic kidney has in my experience rarely been the cause of hypertension although we have an example of a hypoplastic pelvic kidney in a young woman, the removal of which resulted in a return of an elevated blood pressure to normal levels. Some years ago in doing routine urologic examinations on young persons, we found 7 per cent of hypertensive patients had duplex kidney. This may not be significant although it excites some curiosity as to why this anomaly should have such a high incidence in a group of young hypertensive patients.

Although experimental hypertension has been produced by ureteral obstruction, we have not

found this of clinical significance. It is not uncommon to see patients with mild hypertension associated with benign prostatic hypertrophy, many of whom will return to normal following prostatic surgery. In my experience, however, hypertension has not been a major problem in these patients.

The experimental hypertension of Page produced by wrapping the kidney in cellophane has its clinical counterpart. We have reported² a typical case in a young man who, following a kidney injury in playing football, developed a calcified and fibrotic perirenal hematoma. Hypertension developed within a year, which returned to normal following a nephrectomy. We have recently seen an exactly similar case in a sixteen-year-old boy. He too had suffered a football injury but there was no history of hematuria. Hypertension later developed and a pyelogram showed a displaced and atypical right kidney. Subcapsular hematoma was suspected and proved at operation. Following a nephrectomy, the blood pressure promptly returned to normal.

Hypertension apparently due to the same mechanism has been reported following operations on the kidney. Considering the large number of kidney operations, this must be a rare occurrence but should be immediately considered in any patient who develops sudden hypertension postoperatively.

One of the most important causes of renal hypertension to attract recent attention is obstructive disease of the renal artery. This may produce sudden and severe hypertension which often is of the malignant type.³ The obstruction is most commonly intrinsic and may be unilateral or bilateral. It may be due to thrombosis, emboli, arteriosclerotic plaques, fibrous intimal proliferation or even foreign bodies in the renal artery. Compression of the renal artery from extrinsic causes, such as retroperitoneal tumors, renal ptosis, may produce hypertension but these must be very rare.

The first clue to a diagnosis of obstructive arterial diseases is a history of sudden and rapid onset of hypertension which often is of the malignant type. An added clue is a history of flank pain, often with microscopic hematuria or pyuria, which may signify a renal infarct.

One should be especially on guard in young patients who develop sudden hypertension. We have seen one boy, fourteen years of age, with extremely advanced and severe malignant hypertension, who at autopsy showed bilateral pinpoint

stenosis of the orifices of both renal arteries. Hypertension, however, may develop with occlusion of only one renal artery.

The diagnosis in these cases is not always easy. As indicated, the history usually furnishes the first clue. Urinalysis may reveal proteinuria, red cells, and pyuria. An intravenous urogram should be done in all such cases. This may show diminished function on one side, but we have a striking example of an apparently normal urogram in a young man with an occluded renal artery. One should note especially the renal mass. In our cases, review of the urogram in each instance has shown evidence of reduction of the renal mass on the affected side.

Final evidence is supplied by a renal angiogram accomplished by means of a translumbar aortogram. In this manner one may be able to demonstrate clearly an obstruction in the renal artery or one of its branches. In our experience, this has proved to be a most important indication for lumbar aortography, and we believe it should be done in all cases of malignant hypertension especially in young patients.

When an obstructive renal artery is demonstrated, differential renal function studies may be carried out for confirmatory evidence, and nephrectomy is indicated if the presence of renal arterial occlusion can be established. Here then is a reversible form of malignant hypertension which reminds us of the importance of identifying these cases, for the reward is great.

Of the adrenal tumors the most important one is the pheochromocytoma. This is a tumor composed of chromaffin cells characteristic of the adrenal medulla. These tumors vary greatly in size and may occur anywhere that chromaffin is found, usually along the aorta. They have been reported twice as frequently on the right side, and 10 per cent are bilateral. They produce two pressor substances, epinephrine and norepinephrine, which cause the hypertension; in pheochromocytoma, the norepinephrine may predominate.

The clinical features of these tumors are quite variable. There may be paroxysmal bouts of hypertension which is associated with nervousness, anxiety, headache, tremor, palpitation, and sweating. In many cases the hypertension is sustained. Hypermetabolism, glycosuria, and hyperglycemia may be present to confuse the diagnosis. It should, however, be suspected when any of these symptoms are present, and the diagnosis pursued by the

measures previously outlined. If the diagnosis can be established, the surgical removal of the tumor will cure the patient.

Adrenal tumors associated with Cushing's disease and primary aldosteronism may also be associated with hypertension. These cases usually come to the urologist after they have had careful study by the internist or the endocrinologist, and the same methods for x-ray study are employed as those described for pheochromocytoma.

Summary and Conclusions

Renal hypertension may be produced by disease which is curable by urologic surgery. Nephrectomy for parenchymal renal disease should be performed only when indicated by the disease present. In these, 25 per cent may be expected to have hypertension relieved by the operation.

Obstructive lesions of the renal artery may produce severe hypertension of the malignant type.

It should be suspected in any patient with hypertension of recent onset. Diagnosis can in most instances be clearly established by means of renal angiography and the hypertension relieved by nephrectomy or renal arterial graft or thromboendarterectomy.

The urologist is also called upon to assist in the diagnosis of adrenal tumors which are associated with hypertension, notably pheochromocytoma, and to carry out the surgical removal of these tumors.

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OBSTRUCTION OF THE GASTROINTESTINAL TRACT

(Continued from Page 1081)

closure of perforations of the cecum. The causes of the perforations of the cecum are not known.

Appendicitis in the newborn is very rare but has been seen and reported, and its associated pathology may and does give rise to obstruction in this age group.

Summary

Obstruction in the gastrointestinal tract in the newborn is in most instances due to a developmental abnormality. The various congenital defects and their locations are briefly reviewed.

The diagnosis in the first twenty-four hours can be made in most every infant if each newborn is

carefully examined and observed during the first few hours of life. Examination of vomitus and meconium, with radiograph of chest and abdomen, confirms the obstruction and its location.

Surgery within the first twenty-four hours to relieve the obstructing lesion gives the opportunity for cure.

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The Hypertensive Cardiovascular Diseases— An Evaluation

By Irvine H. Page, M.D.
Cleveland, Ohio

I AM especially pleased to participate in your Annual May Clinic, of which I have heard so much favorable comment outside of Ingham County, and to see some of my old friends, such as Dr. Christian.

Just at this stage of our knowledge of the treatment of arterial hypertension, it seems to me especially useful to gather perspective. This, if only because currently we are being inundated with claims and counterclaims of the merit of this or that new remedy.

It seems somewhat infantile to point out that the function of blood pressure is chiefly to perfuse tissues and that minor variations in its level are most natural in view of the many mechanisms which control it. These mechanisms range from cardiac output to chemical and neural controls of peripheral resistance. This multiplicity of mechanisms incidentally provides a good many doors into which it is possible to get one's foot when it comes to methods of lowering blood pressure. But the more important point is that our chief concern in hypertensive patients is not the height of the blood pressure but rather the way the blood vessels are withstanding the heightened pressure; in short, the rapidity with which cardiovascular disease is developing and progressing. The blood vessels in the eyegrounds, the myocardium and the kidneys provide the most useful vascular areas for its estimation.

Now that we are able to lower the blood pressure satisfactorily in many patients, the problem of vascular disease confronts us. Dr. Corcoran, Dr. Dustan, Dr. Lewis and I have just finished a study of the results of intensive treatment of the last 100 of our patients and arrive at just that conclusion. I stress the primacy of vascular disease because I think we have been slow to recognize, and even slower to investigate, its causes; everyone is too

concerned solely with the problem of lowering blood pressure.

There are three main types of vascular disease exhibited by the hypertensive patient. The first and most important, is the proliferative type which occurs chiefly in the arterioles and adds to the increase in peripheral resistance which is the hemodynamic characteristic of hypertensives. The second is ordinary atherosclerosis which affects us all, has been known for 5000 years and has been seriously investigated only in the past ten. The third is the more dramatic variety, especially its name, "malignant." It consists of the deposition of fibrinoid in the vessel wall followed by hemorrhagic necrosis.

Fortunately, there are a number of experimental counterparts of all these types of vascular disease, therefore there is no good excuse for not making a concerted effort to find their mechanisms and cures.

I have said that normal blood pressure is controlled by a wide variety of mechanisms and it has seemed to me that the same is true for the high blood pressures as well. High blood pressure and even so-called essential hypertension, in my view, is not of unitary origin. There seem to be many mechanisms involved. On what is this view based? Let us analyze briefly some of the known ways in which blood pressure can become high. In short, let us try to introduce a little logic into this very murky problem. But, remember, it has been said that "logic" is a rational way of being wrong with complete confidence.

Hypertension can certainly result from involvement of the kidneys. There are several ways of producing it by altering the renal circulation in experimental animals, such as clamping a renal artery or developing a perinephric hull by wrapping the kidneys in cellophane. Bright's disease, pyelonephritis, renal vascular anomalies—all readily come to mind as clinical examples. These have all been beautifully described to you this afternoon by Dr. Engel. Then there are the endocrine varieties, such as result from feeding salt

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and injecting DCA, and the clinical examples, aldosteronism and pheochromocytoma. The neurogenic are rather more nebulous in that we have not yet learned how to diagnose them objectively, but I am sure much more common than the endocrine. And finally, the cardiovascular, such as coarctation of the aorta and the systolic hypertension of generalized arteriosclerosis.

I believe that the same system of thinking, in terms of the four groups of mechanisms of secondary hypertension, will be carried over into the analysis of the problem of mechanisms in essential and malignant hypertension. Some day I hope we will be able to estimate individually the contribution of, say the endocrine glands or the nervous system, to the heightened blood pressure. But from this concept comes the important conclusion that all patients with elevated blood pressure will not respond to any single remedy. And it is precisely the opposite type of thinking which is going on today; an attempt to make one drug or one surgical procedure cure all patients with hypertension. No, one of our great problems is to develop methods to measure the mechanisms participating in that elusive and complicated figure called "blood pressure."

Because we don't have all the answers is no reason for not making the attempt at the bedside to get some notion of the participation, normal or abnormal, of the various components, renal, endocrine, nervous and cardiovascular. If you will begin to think in terms of these various groups or panels of mechanisms you will have a much better understanding of these variable and multifaceted diseases, which make up the hypertensive cardiovascular diseases.

The current treatment of hypertension seems to me comparable to that in the management of diabetes in the years 1922 to 1925. The insulin we had then was potent, but it was variable and great care was necessary in its use. Dr. Joslin had pointed the way for the self-care of the patient by his methods of careful patient education. The patients were taught to determine their own urine sugar and adjust the insulin dose accordingly. We are beginning the same thing with hypertensives; they take their own blood pressure and learn to adjust the dose of ganglion blocker to the degree of postural hypotension. In short, to get the most out of the modern treatment of hypertension, infinite pains must be taken. Without this, there is going to be, and is, much disappointment. And

this disappointment is greatly heightened by the exaggerated, and in some cases, unprincipled, claims made by a few of the drug houses for their products. When one reads that treatment was effective in 92 per cent and failed in only 8 per cent, or the bald statement that there was good control over blood pressure without toxic manifestations, it makes you wonder. Especially when the physician reads in a clinical evaluation by a good investigator that "good results could not be predicted. Neither did significant lowering of blood pressure ensue in the majority of cases."

Fortunately, most of the claims are now being toned down, at least by the more discerning manufacturers. Let us not forget that just a few years ago rutin was being broadly promoted and some of us who were unconvinced were given a good dose of the absent treatment. The rutin experiment was a costly one for the public's pocketbook.

While on the subject of pocketbook, I want to emphasize again what many of you have heard me say on other occasions—that more consideration must be given by physicians to the cost of drugs. For chronic diseases such as hypertension the price may become prohibitive. When a man has to pay \$60 to \$90 a month, and even more in some cases, this may be a third of his income. I ask you to acquaint yourselves with prices and ask yourselves whether you wish to prescribe a drug which is milligram for milligram six times as potent but three times as expensive when the drug is to be given by mouth anyway. In short, you are buying a smaller pill at three times the price. I think I could swallow a little larger pill rather more easily if it were that much cheaper. The same type of thinking applies to the digitalis alkaloids. A standardized powdered leaf for most purposes still fulfills the majority of needs and is far cheaper than the purified alkaloids.

I shall not discuss individual drugs because of lack of space but rather content myself with one other general principle I think important in the management of hypertensive patients. This is the avoidance of the substitution of pills for an ordered and humane philosophy of treatment. Then there is another side of the problem which I think deserves your thoughtful consideration. It is so much easier to prescribe a medicine than to take the time to sit down with a patient and explain to him what his disease is, what he must do and what he can expect. This is time and

emotion consuming but I know of no substitute for it. I have tried to make it slightly less so by putting down in a little manual for hypertensive patients many of the things they should understand, and Charles C Thomas in Springfield has just published a new edition of this manual. The education of the patient with chronic disease seems to me of paramount importance.

To put it bluntly, we have somewhat unwittingly substituted a series of "don't and can't's" for a more positive approach to life in which the "do's and can's" are emphasized. Think of the dismal outlook of the patient first told he has hypertension. The next morning he wakes up to the realization that he must immediately go on a reducing diet, low in fat and free of salt. There is nothing like a bowl of unsalted rice with some nice blue skimmed milk to provide a tempting breakfast on a cold winter morning, let me assure you. And then, of course, he must give up smoking, and presumably drinking. And he must never move at a pace beyond a slow walk. Sex is taboo. To make life utterly miserable, we administer drugs which have the charming property of making it impossible to read, and a little too much of it stops the bowels and ability to urinate. Further, the patient feels dizzy and will often faint if he tries to stand up. I am, perhaps over-emphasizing for the purpose of calling your attention to the lack of humanity our enthusiasm for

lowering blood pressure may draw us into. Let us more thoughtfully fit the treatment to the needs and those needs must include first and foremost the right to live reasonably effectively and comfortably. Let us apply our new won knowledge scientifically and thoughtfully but always with abundance of humanity. If we are to be our brother's keeper, let's keep him in a style which has some semblance to the one to which we ourselves have become accustomed.

I hope I haven't given you the impression that I am highly critical of the work being done in the treatment of hypertension. Quite to the contrary, I am convinced that enormous strides have been made and today there are far more good and important problems urgently in need of solution than there are investigators to solve them. That is healthy. There are now a number of very useful drugs which, if used with discernment, will prolong the lives of hypertensives. It is just that they aren't good enough and we still don't know how to select the patient in whom the response will always be good. Let us not get smug and self-satisfied and let us anticipate our problems. The most urgent of these, in my opinion, is the cardiovascular disease associated with hypertension. A good job has been done by the research workers, but as my baseball cousin, Satchel Paige once pointed out, "Don't look back. Something may be gaining on you."

INGHAM COUNTY MEDICAL SOCIETY MAY CLINIC

(Continued from Page 1073)

to Michigan such individuals as the now immortal George Crile, Chevalier L. Jackson, Sr., Miles Porter, John Phillips, and Warren T. Vaughan. The Society is also honored in that among the speakers have been Harrison Shoulders, Walter Martin, and Elmer Hess, all past presidents of the American Medical Association.

The quality of the speakers at the clinics and the suitability of the programs presented may be best attested by the record. The attendance at the first clinic was 227. In spite of an increasing number of sectional, regional and local meetings

at this particular time of the year, the attendance has increased steadily from year to year. A review of registrations in the early clinics shows that practitioners came from as far east as Port Huron, as far west as Muskegon and Holland, and as far north as Grayling and Gaylord. The geographic pattern of attendance has not changed through the years. The Ingham County Medical Society notes with pleasure that physicians return year after year for the clinic, and takes great pride in its contribution to postgraduate medical education.

What's New and Usable in the Chemical Treatment of Abnormal Behavior

By John T. Ferguson, M.D.
Traverse City, Michigan

MY WORK is treating the mentally ill. Not the new admissions at our Traverse City State Hospital, but the chronic regressed patients who, according to all statistics, were beyond the point of no return. It is from our work with these patients that we have collected a large part of the material to be presented today.

What can this mean to you whose field is general practice? Just this: The new methods of chemically reversing advanced, apparently irreversible mental illness are also applicable to the behavior problems you doctors meet in your daily work.

Patients do not arrive at our hospital with fancy psychiatric diagnoses any more than they arrive that way to you family physicians. They all come to all of you and to me for exactly the same reasons—either they cannot live with themselves or they cannot live with others in their communities. But you say these reasons are too vague. What is it, specifically, that brings the mentally ill to the general practitioner—and then to us at the State Hospital?

The simple answer comes out of a study of many complaints leading to admission. It boils down to *behavior*. Behavior of such an abnormal caliber that those closest and dearest to the sick, could not endure it any longer.

All of you are familiar with abnormal behavior of this type—it has existed thousands of years before its description in the learned nomenclature of Bleuler and Sigmund Freud. Many of you have prayed for help that would same day prevent you from having to make another committing statement.

The possible chemical control of abnormal behavior by methods that can be used by the general practitioner—that is our goal. The recent development of what may be called "behavior drugs" gives promise of treatment that will attack and eliminate many of these socio-medical problems in each community. This work has now

progressed to a point where it can be passed on for test in the field—by you family doctors.

Our research has progressed until today most of our efforts are concentrated on the investigation and evaluation of new behavior drugs. And, I do mean new, as many of the compounds we are investigating today are numbered, rather than named, and although it may seem odd, many of them are as yet completely unknown to the *Ladies Home Journal* and *Time Magazine*.

This type of research is usually called clinical investigation. However, most of us like to consider ourselves as Medical Test Pilots—the men behind the scene who help to iron the bugs out of the new drugs for the physicians in the front lines. Doing this is not always easy, and the results are not always as successful as we anticipate. It is not easy because after the new drugs have gone through the laboratory and have been tested thoroughly we must analyze the reports, checking closely for activity, safety, side reactions and toxicity. We do this until we find one that has possibilities in our field. Further laboratory tests are then run against known compounds of like action. If the results of this comparative study reveals activity that is better or more specific than those compounds already being used, we file a Food and Drug Administration investigators form and start testing the drug clinically. As part of our research we work out activity and dosage. Far more important for you Doctors, to my way of thinking, are our observations and evaluations of the safety, side reactions, contra-indications and limitations of each compound based upon many months of their use.

As our work progresses, we make reports of that which we have seen. We do this as honestly and simply as we can, in order that the greatest number possible, will understand our methods, see how we obtained our results and be able to administer the new drugs with understanding and confidence.

We have prepared such a report for you today, a report that we feel will shed some new

Presented at the Michigan Clinical Institute, Detroit, March 9, 1956.

SEPTEMBER, 1956

light on everyday behavior problems, as well as help you in managing them.

None of the present drugs by themselves will control all behavior problems because each drug is rather specific for one type of behavior, and the behavior of an individual is usually a mixture of overactivity and underactivity. This is true of normal as well as abnormal behavior. None of us carries a full head of steam all the time, just as none of us has a dobber down all the time. However, most of us are able to control ourselves and, as a result of this, can live with the stresses and strains that confront us each day.

It is when the response of an individual to the pressures of life is such that he cannot control himself—it is then that we have abnormal behavior. The abnormality may be covered up well, or it may be severe enough to disturb the relatives and neighbors.

I cannot give a one, two, three plan for diagnosing treatable behavior. But I can say that each of you is doing it every day. Take the patient who comes into your office with or without specific objective pathological signs—before you talk to her two minutes you have mentally recorded the fact that she is tense and nervous or that she has the “blues” and is down-in-the-dumps. It is the same method whether the patient be eight or eighty. With but few exceptions, however, the behavior of the patient is mixed in character.

That is, in most patients, regardless of the outward behavior manifestation, there is an element of the opposite present. Let me repeat—in most patients, regardless of the outward behavior manifestation, there is an element of the opposite behavior present. I have stressed this mixture of behavior within each patient because a simple understanding of it will greatly increase your success with the new drugs and eliminate many of the difficulties you are now encountering.

To better understand what I mean, and to show you how we worked it out let's go back a couple of years. The first of the new behavior drugs we had were Serpasil and Thorazine—tranquilizers; quieters. Within a few months, the lay magazines were loaded with articles of praise for which they could not coin enough superlatives. I recall one that went so far as to spread a headline across two pages, “Mental Cure Found,” or words to that effect. The pressure was great. Medical publications followed the trend with ar-

ticles of the same caliber. Enthusiasm had no bounds. Let me refresh your memory by quoting from an article:

“Patients showing marked habit deterioration such as soiling, wetting, and destructiveness, become more cleanly, less destructive, and better able to care for themselves; and patients given to outbreaks of violence, with a tendency to assault, become much better adjusted to their environment and their activities are more easily directed into useful channels following treatment.”

Fine—except that which I have just read was taken from a 1926 issue of the *American Journal of Psychiatry* and is talking about bromides.

Like the bromides, it was only natural that history should repeat itself. Reserpine and chlorpromazine were soon used to treat everything from falling hair to falling arches. As their use increased, so did the failures and side-reactions. A sour note appeared to overshadow the glowing praise that had heralded these drugs into existence.

When we discounted the failures associated with indiscriminate use, the percentages came up fast but there was still a fly-in-the-ointment. We went fly hunting! With the treatment of our first very overactive group, the results had been excellent, so we treated a less active group. Not so good. They didn't smooth down as well as the first group. The next stratum of the overactive group was even worse. Why? We didn't know, but we looked and checked and then did some thinking. The last group hadn't done as well because they showed more underactive features quicker than the others. It was the same for the second group when compared to the first. From our experience with barbiturates, we knew that an analeptic would act as a pick-up. We tried it with caffeine. Only mild success—but we had a lead. Behavior must be mixed. If true—and we could balance these two behavior components within an individual—it is then that we would have our goal—active tranquility. We tried every analeptic we could find. The results were fair, but none was consistent. It was then, well over a year ago, that Ciba permitted us to try two new analeptics. One was good, the other looked most promising. As often happens in our type of research, the first one went sour. But the other one, methylphenidylacetate, which is marketed as Ritalin, more than fulfilled our fondest expectations. It not only relieved the side-reactions of Thorazine and Serpasil—it also

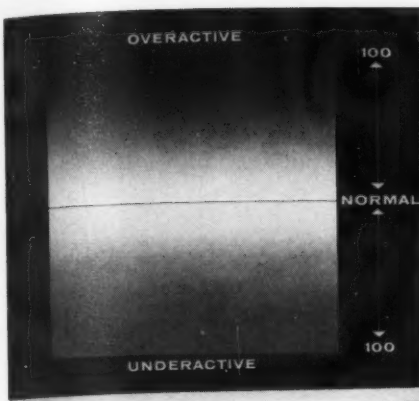


Fig. 1.

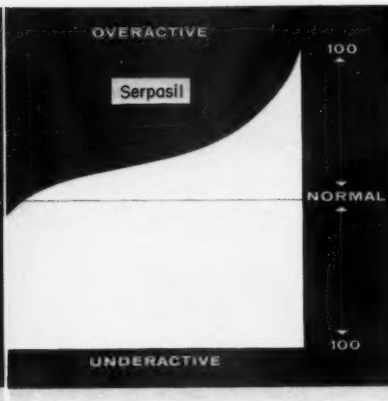


Fig. 2.

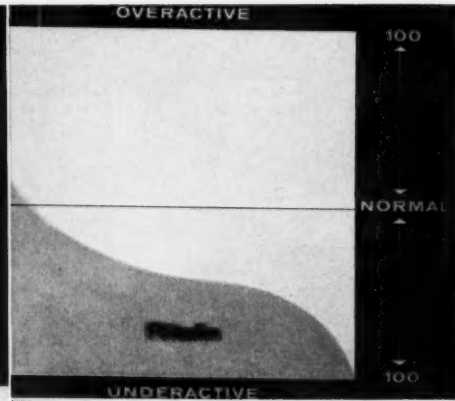


Fig. 3.

increased our improved percentages by creating an awakening toward reality within these patients. It was more than a "picker-upper," it was a true psycho-analeptic.

Realizing this, we lost little time in trying Ritalin by itself on the negative, underactive behavior group. We had excellent results with our first negative group. Ritalin relieved most of their underactive behavior smoothly and without the blood pressure, pulse and appetite changes or the jitters associated with many of the other analeptics we had tried. Then, as with the overactive behavior series, we saw our results fall off as each successive stratum of underactivity was treated. When we add Serpasil and saw our improved percentages increase—it was then that we felt we could produce active tranquility. We hadn't been down the road before, so we traveled cautiously changing doses, watching and recording. As the days turned to weeks, all went well but the months ruined us. Something mysterious was happening to our patients, just as many of you have seen it happen to yours. They just plain weren't doing so well.

Today, fifteen months, 700 patients and eleven drugs later, we feel we have found some of the answers that will help you in the chemical management of behavior problems.

Each of the new behavior drugs has, like digitalis and insulin, specific indications and contraindications. To use them successfully one must know their limitations, their good and their bad points and their clinical course.

The literature, loaded as it is with ambiguous and contradicting statements, makes a true study of each drug impossible. What then are you to do? Concentrate on one analeptic and one tranquilizer. Study them, know them, use them and understand them clinically—separately and com-

bined. They will be enough. Let me show what I mean—

Figure 1 represents behavior problems as they walk through your office door. From the shading, one sees that some are outwardly very overactive, others are quite underactive. Most are near normal.

If only a tranquilizing drug is used, results will be similar to the dark area shown in Figure 2. The most overactive will be helped most. The less the overactivity, the less they will be helped. For a tranquilizing drug, I use Serpasil, because I consider it the least toxic and the safest to use for increased motor activity, aggressiveness, anxiety and tension. It has proven best for me with all overactivity, both mental and physical.

If treatment is confined to an analeptic, results will be similar to the shaded area shown in Figure 3. The more underactivity present, the better are the chances for helping the patient.

For an analeptic drug, I use Ritalin, because within therapeutic limits I have found it to be without side effects. It has proven safest and best for me with underactivity, both mental and physical.

Let's go a step further and consider treatment for both overactive and underactive behavior patients. The overactive patients are treated with Serpasil and the underactive patients with Ritalin. From the clear area in Figure 4, it can be seen that there is still a big segment of behavior that is not being touched.

If you look at this another way, it is then that you see more clearly how this untouched behavior segment has both overactive and underactive components, each of varying intensity. It is definitely mixed (Fig. 5). How do you attack it?

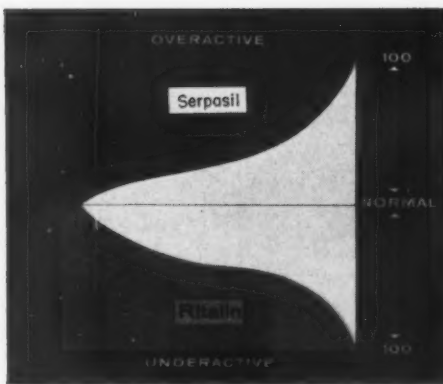


Fig. 4.

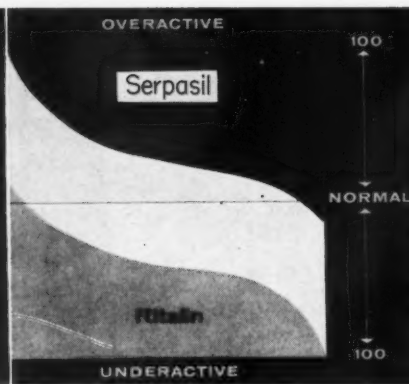


Fig. 5.



Fig. 6.

First, you can set up your results as percentages to see how many behavior problems will be responding to Serpasil and how many will be responding to Ritalin, after at least a year. This is quite important because in any practice, the lasting benefits of the future are far more important than are the spectacular cures of today. Roughly, 10 to 15 per cent of all overactive patients on Serpasil alone will be doing fine after a year. About 5 to 10 per cent of underactive behavior problems will be all right on Ritalin alone after a year. We see, then, that at the end of the year 75 per cent of behavior problems have not been touched—or will be showing changes from their first improvements (Fig. 6). The reason for this is not an accumulation of the medicines within the patient. It is an actual change within the patient. Where this change takes place with Serpasil and Ritalin, I do not know, but I do know that as the behavior of an individual moves toward normal, there is need for less and less medicine. Most of you know what I mean because you have used Serpasil for some of your hypertensive patients—patients whose hypertension was perhaps the clinical manifestation of increased anxiety or tension. Within a week or two, the blood pressure was down several points on maybe a dose of 0.1 to 0.3 mgm. of Serpasil three times daily. The patient felt like a new man. Life was more bearable for him. For the first time in years, he was living. You've heard it—and felt good—until months later when the patient came in depressed or complaining of always being sleepy. I have seen it happen on 0.1 mgm. of Serpasil daily. I have also seen this same patient add 10 mgm. of Ritalin twice daily to his daily 0.1 mgm. of Serpasil and improve to a better mental and physical level than at any time in the past ten years. Therefore, to treat behavior problems

properly, each must be treated individually as a mixture of overactive and underactive components.

To illustrate what we mean, in Figure 7 we have not only placed the two behavior components side by side, but we have also shaded the areas to show how, as the underactives awaken toward reality and the overactives "simmer down," each will not only need less and less of their original medicine, but to arrive at an active tranquility they will each need to have the second drug added.

Figure 8 is the same as Figure 7, but with the dosages added. In each section we have used a dosage range, rather than a mandatory figure. We did this to stress the individuality of each patient, as two patients with the same clinical behavior pattern quite often require different dosage levels.

Here approximately 15 per cent of the overactive group have no clinically recordable underactive component. This type of patient will require larger doses of Serpasil than any of the others. This dose range is usually 5 to 15 mgm. of Serpasil per day, although it may have to be raised with a few overactive cases. Results with this overactive group will be faster and smoother if the parenteral Serpasil is used.

A safe rule-of-thumb to follow for parenteral Serpasil is this—"If the patient can be given 7.5 grains of Sodium Amytal then 5 mgm. of Serpasil can be given. If not, then use 2.5 mgm. of Serpasil." Either dose may be repeated every three to six hours, if needed. On the underactive side, there are approximately 10 per cent who will require 60 to 90 mgm. of Ritalin a day. This works best when given 20 to 30 mgm. three times daily.

It is from these two groups—the very overactive and the very underactive—that State Hos-

ABNORMAL BEHAVIOR—FERGUSON

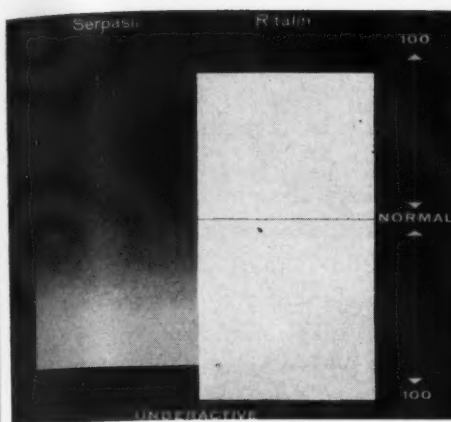


Fig. 7.

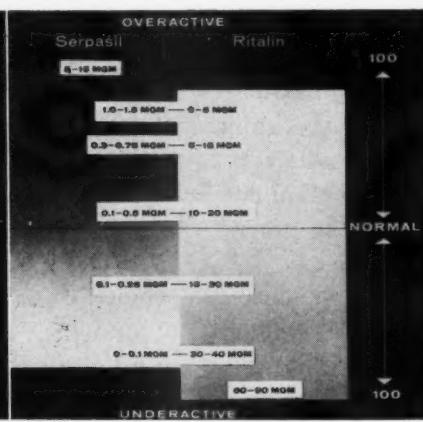


Fig. 8.

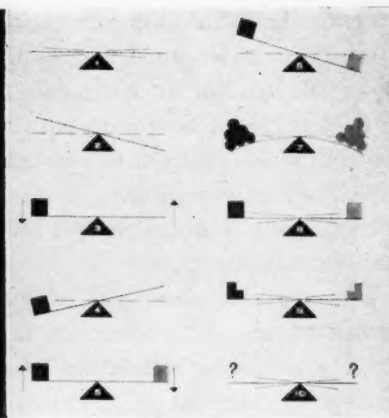


Fig. 9.

pitals secure most of their admissions. Proper treatment of this type of patient, therefore, should reduce materially the number of commitments each general practitioner will be forced to make in the future. It is a challenge to good medicine.

In this central group, very few patients will require as much as 1.5 mgm. of Serpasil or as much as 40 mgm. of Ritalin daily. In fact, the 0.1-0.5 mgm. Serpasil and the 10-20 mgm. Ritalin daily dosage will be used more than any other, as most patients will not be too far from normal behavior when first seen.

Using divided doses will give smoother action. We like a three times daily schedule. The medicine may be given before, after, or with the meals. It may be crushed and put in the food or beverage, if necessary.

Although we show the range for the combined use of both drugs, only a small part of treatment will start that way. In most cases, there will be a dominant behavior. If it is underactivity, start with Ritalin. If it is overactivity, start with Serpasil. Then, as the dominant behavior starts to resolve, add small amounts of the second drug. We have found that early addition of small amounts of the second drug—5 mgm. of Ritalin two or three times daily to the patient on Serpasil, or 0.1 to 0.2 mgm. of Serpasil added to the patient on Ritalin—produced better results and is easier on the patient and the doctor than to do nothing until side reactions or bad effects appear. Learning to add the second drug as soon as the original dominant behavior started to resolve caused us more headaches than any other point, yet the facts behind it are so simple I feel guilty whenever I think about it.

Let us consider Figure 9. Behavior is like a teeter-totter. (1) Normal behavior fluctuates, but

maintains balance—even though one component may be dominant.

(2) It is when one factor—overactivity or underactivity is clinically manifested—that we have abnormal behavior. It is the inability of the individual to keep in balance that usually brings him to your attention.

If Serpasil is given in amounts sufficient to decrease the overactivity—is it right that this overactivity should reach normal and stop? Of course not. (3) It is like putting a rock on one end of the teeter-totter to bring it down—and expecting it to stop at center. (4) Unless the dosage is adjusted in proportion to the patient's improvement, it is only right to expect the drug to continue acting on the overactive component until the negative remains clinically.

(5) Now, if we add Ritalin to the point that this new underactivity decreases, we again cannot expect the behavior to reach normal and stop. (6) It will again go on until the original overactivity manifests itself—even though the patient is on the original Serpasil dosage.

(7) From this we see that we could continue adding to each side as they went up and down—we could add until we exceeded therapeutic limits. Remember my headaches—it can be done. I recall one underactive patient during the time I was learning about this—I got her up to 8 mgm. of Serpasil three times daily. That is right—an underactive patient on a dose of 24 mgm. of Serpasil and 90 mgm. of Ritalin each day. Today she is doing fine on 0.2 mgm. of Serpasil and 10 mgm. of Ritalin three times daily.

Don't do it the hard way—add the second drug when the patient starts to improve. It will take less drugs—and less time.

(8) After the patient is balanced for a month

or two, decrease both drugs in proportion. (9) That is, if he is on 1 mgm. of Serpasil and 20 mgm. of Ritalin three times daily, cut the dose to 0.75 mgm. of Serpasil and 15 mgm. of Ritalin three times daily. Do this every couple of weeks. (10) In this way, it may be possible to eliminate both drugs. If not, you will arrive at the proper maintenance dose.

The cause of abnormal behavior is not always known to us. Consequently, there will be times when a balanced patient will be temporarily upset. The addition of extra Serpasil or Ritalin for a short time will usually help the patient through these upset periods.

Think of the controlled diabetic patient. If he overeats, he takes more insulin. If he fasts, he cuts his insulin. The same, in relation to the amount of mental strain, is basically true in the treatment of behavior problems. However, the diabetic person cannot do this unless he has had it explained to him. Therefore, for the best results with behavior problems, it behooves the physician to explain to patients, or their relatives, the action of each drug, what the drugs are expected to do and what the patients should report in order that the physician may adjust the drugs properly to reach the desired goal—active tranquility.

Doing this will be easy, and the results will be good with the average behavior problem. However, there is one type of behavior that is being seen more and more each day, which we have been asked to discuss more thoroughly. It is the behavior of senility, the biggest challenge.

In many cases, it is possible to control, ameliorate or even reverse the abnormal behavior of these elderly patients. The method is the same as that which we have already outlined, but since many consider the abnormal behavior manifestations of senility to be irreversible, we felt a report on this new approach to the problem is needed.

Age, length of illness and the usual physical infirmities of this group are not contra-indications to either Serpasil or Ritalin.

No special diagnostic or laboratory techniques are needed, although we have used them in approximately 300 cases. Clinical observations will be the most important criteria for starting doses as well as adjustment.

Those elderly patients showing a predominance of overactivity should be started on Serpasil. A

good starting dose is 0.2 mgm. three times daily.

Those elderly patients showing a predominance of negative behavior should be started on Ritalin. A good starting dose is 10 mgm. of Ritalin three times daily.

The elderly patient about whom you are not sure, or who has mixed behavior, may be started on both Serpasil and Ritalin at the same time. A good starting combination is 0.2 mgm. of Serpasil and 10 mgm. of Ritalin three times daily. It is possible—and with a wide margin of safety—to raise these starting doses if you feel the initial behavior warrants such an increase.

The first change may be within two or three days or it may take as long as three weeks to produce it. Checking the patient every day or two for this period will allow regulation of the dose as needed to produce clinical change.

As the clinical behavior pattern of each patient starts to shift toward normal, either the original dose will have to be reduced or the second drug added.

With overactive elderly patients, a reduction in motor activity or aggressiveness, or anxiety and tension is desirable. When this decrease is seen clinically without any evidence of reduced mental activity—it is then best to reduce the Serpasil gradually before adding Ritalin. If, on the other hand, the reduction includes decreased mental activity—it is then best to add Ritalin. In a few elderly patients, lethargy may be seen before the motor activity or aggressiveness is reduced. When this happens, a small amount of both drugs should be added—the Ritalin to overcome the lethargy and more Serpasil to take care of the motor activity. These cases are rare, but should you have one, remember to work at it with both drugs—or you'll be in for a trip on the bouncing teeter-totter.

The maintenance dose for most overactive elderly patients will be near 0.25 mgm. of Serpasil and 5 mgm. of Ritalin three times daily. About one-fourth of these patients will require either a higher regular dose of Serpasil or an occasional extra dose of Serpasil.

The number of the underactive patients in the senile group will be about one-half or one-third that of the number of overactive patients. I can't tell why, but I can say that a negative, withdrawn, quiet patient loaded with tension, anxiety or resistance should be considered overactive and treated as such. Consequently, a fur-

ABNORMAL BEHAVIOR—FERGUSON

rowed brow, sweaty hands or refusal to follow normal routines when seen in a patient—regardless of the negative front he tries to assume—should be an indication to start on Serpasil and to treat the patient as an overactive person.

It is usually because of the confusion and disorientation in these negative patients that they resist—they don't understand, so they resort to survival tactics—they fight it—they resist it.

Thus, a negative patient is one who is without tension, anxiety, or resistance. He can be confused or disoriented. Usually, he is one who requires help or prodding to follow daily routines. He follows easily, making few if any decisions for himself.

The Ritalin may produce clinical change in these patients within a couple of days. If there is no change within three or four days, the dose should be raised. If, after the dose has been gradually raised to 30 mgm. three times daily and there is no change for three or four days, it is then advisable to add Serpasil which in most cases will produce a change so that the drugs can then be balanced.

The patient who improves his negative clinical pattern without evidence of excess motor activity or aggressiveness, when his behavior moves toward normal, can have the Ritalin gradually reduced. When there is clinical evidence of overactive behavior, along with the mental awakening—it is then that Serpasil should be added to the Ritalin. Most negative patients will be maintained on a dose near 0.2 mgm. of Serpasil and 10 mgm. of Ritalin three times daily. Here again, after the patient has been in balance for a period of time, both drugs can gradually be reduced to find the maintenance dose.

Senile patients will do better and have a smoother life if kept on a maintenance dose. The

relatives of these patients usually demonstrate less anxiety if the medicines that helped Grandpa or Grandma are continued.

Speaking of relatives—what can you offer them? What can you tell them the drugs will do for Grandma? You cannot offer them complete rejuvenation for their loved ones. In fact, you can't offer them too much unless they want to help. Why? The drugs by themselves do not have the power to carry the senile patient back—they can produce within the patient the ability to participate—the total improvement will be in almost direct proportion to the help and tender loving care they receive.

If you are sure that the patient will be helped and reassured, and then reassured again as the drugs act to produce a lessening of his confusion and an increase in his orientation—if you are sure—then you can tell those taking care of the patient that he will show a trend toward a more productive, normal activity. There will be an improvement in his ability to co-operate and a new interest in his outlook on life, and himself. He will enjoy himself more, sleep and eat better and take better care of himself. Most important to the relatives—you can tell them he will need less special care and attention—he can be managed without having to be committed to a mental hospital.

How do I know you can say these things? I know because I've seen them happen. Not just once, but many times. Today almost one-half of my committed senile patients could go home, if they had a home to which to go.

I do not know how many of your elderly patients with behavior problems will end up in an institution, but I do know that by early detection and treatment of their abnormal behavior you will reduce the number and make this a much better world in which to grow old.

ONE MD IN FOUR FOREIGN-TRAINED

The doctor shortage in this country is "very critical," says Dr. Dominick F. Maurillo of New York's Board of Regents. This year one foreign-educated doctor will take a licensing examination for every three graduates of the nation's eighty-two medical schools.

American schools graduated less than 7,000 doctors last year, the chairman of the Board of Regents' committee on licensing told the Medical Society of the State of New York, at its 150th annual meeting.

Although these graduates are interning now, the na-

tion's hospitals are still short 7,000 interns. As a result, Dr. Maurillo reports, "some hospital administrators or their representatives travel to Europe and Asiatic countries to invite doctors here for the purpose of interning in their hospitals."

He recommends that a congressional commission study the problem which, he says, stems from "the present policy of limiting the number of students for admission to our medical colleges."

Normal Variants in Pediatric Roentgenology

By William A. Evans, Jr., M.D.
Detroit, Michigan

PEDIATRICS is concerned with the growth and development of the individual and his adjustment to his environment. Many of us are more familiar with the aging process and recognize that a certain pattern of degeneration with variations is the normal fate of the human organism. We recognize that aging is more happily achieved when the degenerative changes of the mind and of the various systems of the body progress in a uniform, parallel fashion in step with the lessening demands of the environment. Disturbances occur when the aging process progresses more rapidly in one system than in another. Degenerative changes which, in themselves, are a normal feature of aging become a basis for disability and disease when out of step with the degeneration of other organs and systems of the body.

Likewise, in the growth of the individual, we recognize a pattern of development of organic structure and function, of appetite and digestion, of capacity and performance, of stress and adaptation, of ambition and resource, and of challenge and response which leads to a harmonious and useful living. Variations in the growth pattern of different organ systems or between the development of systems and the environmental demands placed upon them are often productive of major or minor disturbances which become problems for the pediatrician and the pediatric roentgenologist. Both growth and aging occur by spurts and stops and perhaps with remissions. It also appears that they are in many respects continuing and overlapping processes.

Neonatal Adjustment

The most critical period of development occurs at birth when the individual undertakes the functions necessary for an extra-uterine existence. Most important are complex modifications of the circulation, together with the initiation of respiration and alimentation under the guidance or control of the nervous system. Some of the systems, so to speak, have been functioning in a small way

to no particular purpose during later uterine life, but their efficient and effective performance becomes critical in the neonatal period. This is accomplished with varying normal and abnormal degrees of success depending for the most part on the development of the infant and his ability to withstand the trauma of birth. Some degrees of respiratory distress, vomiting and constipation occur with sufficient frequency as to be considered within the normal variations of successful adjustment to extra-uterine life. Here, the radiologist can play a decisive rôle in distinguishing varying degrees of unsatisfactory adjustment from such anatomical abnormalities as malformations of the lung, diaphragmatic hernia, atresias of the alimentary tract, meconium ileus and Hirschsprung's disease which may produce similar symptoms in the neonatal period, but which require quite different methods of treatment.

The Trachea

The shape and form of an organ are determined in part by the form and shape of adjacent organs. For example, if there is agenesis of a kidney, the adrenal gland on that side, if present, assumes a globular shape in contrast with the flattened cap-like shape of the adrenal gland when a normal kidney is present,¹ and we may assume that the kidney plays a dominant rôle in determining the shape of the adrenal gland. In this situation, shape and form would not be expected to have any effect on function. It is a happy characteristic of normal growth that organs develop in harmonious adjustment to adjacent organs.² The trachea is an organ which serves no useful purpose in fetal life but at birth is suddenly called upon to perform the vital function of transmitting air to the lungs. For this purpose, it must have an adequate lumen and a wall of sufficient rigidity to maintain its patency under variations of internal and external pressure. Rigidity is maintained by the tracheal cartilages which normally encircle about two-thirds of the trachea. As might be expected, there are variations in the pattern of the tracheal cartilages and in their rigidity. The lumen of the trachea can be easily demonstrated

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radiographically and variations in the rigidity of the tracheal cartilages and in the collapsibility of the tracheal wall can be visualized by serial exposures made in different phases of respiration. Some degree of collapsibility is a normal feature of the infantile trachea, and this decreases with age.³ Occasionally, collapsibility may be extreme and as with variations in development of the laryngeal cartilages be productive of disturbances in the respiratory function. The shape of the trachea is determined in part by adjacent structures. The thyroid gland and the aortic arch, for example, are said to make a normal impression on the trachea (Cunningham).⁴ Gross⁵ has observed impressions of such a magnitude on the trachea by overlying vessels in certain anatomical variations of development of the aortic arch and even by an innominate artery crossing from left to right or a common carotid artery crossing from right to left⁶ as to lead to surgical intervention. It seems reasonable to suppose that these impressions are more marked when the tracheal wall is more pliable and that they will diminish as the tracheal cartilages develop and attain the requisite rigidity. Much has been relearned in recent years concerning the variations in development of the aortic arch but in considering the clinical significance of these variations attention must also be given to the development of such adjacent structures as may be affected.

The Sternum

Sternal retractions are commonly accepted by pediatricians as evidence of respiratory obstruction. The pediatric radiologist observes a wide variation in the extent and pattern of ossification in the infantile sternum and I would assume a corresponding, if not parallel, variation in the rigidity of the sternum and costal cartilages upon which so much of the respiratory effort depends. Thus, it seems to me that while sternal retraction may result from an abnormally great respiratory effort acting on a sternum of normal rigidity, it may also result from a normal or only slightly increased respiratory effort acting on an abnormally flexible sternum.

The Thymus

The thymus is an organ subject to very marked variations in size, shape and weight which, in themselves, do not seem to be of any clinical significance. The large thymus is usually observed in healthy, robust, overnourished infants. It is

my conviction that when the thymus has developed in such a manner and when there has not been a corresponding development of the rigidity of the tracheal wall that the lumen of the trachea will be compromised with resulting disturbances in the respiratory function. This situation is encountered in infants usually between two and eight months of age and very seldom in hospital practice. Similar variations in development with disturbances in function occur in the infantile growth of the tongue, palate, mandible, larynx and lymphoid tissue of the nasopharynx. Almost all infants will outgrow these difficulties in time, but there seems to me strong support for this thesis in the relief afforded to mothers, if more than to their infants, by the frequent regression of symptoms following x-ray irradiation of thymic and lymphatic tissue when a proper correlation of symptoms and x-ray signs has been made.

The Skeleton

Such normal variations in skeletal development as infantile periosteal shadows, transverse striations at the ends of the diaphyses, cortical defects and cartilaginous rests,⁷ subclinical dysplasia at the hips,⁸ infantile bowing of the legs,⁹ et cetera, are well known to pediatric radiologists. A wide range of normal in the appearance of ossification centers is appreciated, although the limits of normal are impossible to define with any precision. Perhaps less well recognized is the fact that there is also variation in the pattern or sequence of appearance of these centers and that the skeletal age as indicated by the appearance of centers in one part of the body may differ considerably from such a skeletal age in other parts of the body.

Normal variations are observed in the size and time of closure of the fontanel of the skull. Premature closure of sutures would seem to be an abnormal extension of the normal variation in the growth of the skull. This premature closure becomes of pediatric significance when it limits the growth of the brain or causes serious cosmetic deformity. Recently, more satisfactory surgical corrective measures have been developed for premature closure of the cranial sutures,¹⁰ and it is a function of the pediatric roentgenologist to determine whether a premature closure of sutures is occurring, which sutures are involved, and whether the closure is the cause or the result of a failure in growth of the brain.

For many years, there has been speculation con-

cerning a variety of skeletal disorders in childhood which are now being grouped under the comprehensive classification of the osteochondroses. There is still difference of opinion as to which lesions should be included in this group. At least for the purposes of this discussion, I would include among the osteochondroses Legg-Perthes' disease, infantile coxa vara, slipped femoral epiphysis, acetabular and ischiopubic osteochondroses at the hips, Blount's disease, Osgood-Schlatter's disease, and Sinding-Larsen's disease at the knee, Kohler's disease of the tarsal scaphoid, Sever's apophysitis of the os calcis, and Freiberg's infraction of the metatarsal head in the foot, Calves vertebra plana and Scheuermann's disease in the spine.¹¹ In my experience, osteochondroses of this type have been extremely rare, if not absent, in the upper extremity with the exception of an osteochondrosis of the proximal epiphysis of the ulna occurring in the pitching arm of adolescent baseball players.

These lesions have in common the occurrence at a restricted period of osseous development in a particular area, a location subject to pressure or traction, a self-limited course, and usually a paucity (or even absence) and insidious onset of symptoms which correlate poorly with the anatomical manifestations of the disorder. In consideration of these anatomical manifestations as demonstrated by x-ray, there has often been doubt as to the dividing line between the normal variation and the abnormal, particularly as might be expected in the milder forms of the disorder.

Trauma is commonly implicated as a factor in these lesions, but it should be understood that this trauma is not trauma in the strict medical-legal sense but the trauma of muscular activity and weight-bearing. It seems to me that the terms avascular or aseptic necrosis are not properly applicable to the osteochondroses of this type because of their self-limited course, the completeness of healing with deformity as the only residual and the integrity of the articular cartilage which is maintained throughout the disease. In Legg-Perthes' disease and in some of the other osteochondroses, Goff¹² and others have observed a delay in the osseous development for the chronological age and in proportion to the muscular development and activity. Certainly, in some of the osteochondroses, a disproportionate development of adipose tissue is a factor. I am inclined to the thesis that these osteochondroses represent a disturbance in growth resulting from a faulty

evolutionary adjustment to the upright posture in an individual, whose physiological stresses and strains have at the moment exceeded the support afforded the bone in a critical stage of its growth and development. In other words, the lesion develops either, on the one hand, as the result of excessive weight-bearing or hyperfunction of muscle acting by pressure or traction on normally developing bone or, on the other hand, as the result of these same factors acting in moderate degree on inadequately developing bone.

Here it seems to me a close analogy may be drawn with the aging process. The aging of ligaments and cartilage and concomitant alterations in the bone structure occur in very much the same areas of stress and strain affected by the osteochondroses of the growing child. Again, a sharp distinction between normal aging and pathological aging is difficult and again there is a very poor, if any, correlation of the anatomical manifestations with symptoms in many instances.

Trauma

Something has been said of the varying effects of varying degrees of physiologic trauma during birth and growth. Trauma is at best difficult to measure and evaluate in the infant and young child, and we are aware that what may be physiologic trauma for a healthy infant may be pathologic trauma for an infant with scurvy¹³ or osteogenesis imperfecta,¹⁴ for example. I would mention here a variety of trauma to the infant which I think has been widely misunderstood. Caffey, in 1946,¹⁵ called attention to a group of infants with subdural hematoma and multiple fractures of bones. Similar reports have been made by Smith,¹⁶ Lis and Frauenburger,¹⁷ Silverman,¹⁸ Astley,¹⁹ and Marie, et al.,²⁰ with the general impression that an obscure syndrome of unknown etiology has been established. These infants typically present themselves with soft-tissue swellings and ecchymoses, dysfunction of one or more extremities, signs of intracranial disturbance often with subdural hematoma, and x-ray manifestations particularly in the extremities of periosteal shadows in various stages of organization and a peculiar fragmentation of one or more metaphyseal areas in the long bones. It has been our experience at the Children's Hospital of Michigan with a similar group of cases which has been studied and reported by Dr. Paul V. Woolley²¹ that these infants are victims of criminal assault, usually by

parents or guardians who deny any knowledge of the manner by which these infants have been injured. For sociological purposes and for the health and even life of the infant, it is important that this form of trauma be recognized for what it is.

Summary

Variations in growth and development observed in pediatric radiology are discussed with emphasis on those manifestations in the borderland between the normal and the abnormal. Such manifestations occurring in the neonatal period, affecting the respiratory tract, and encountered in the skull and skeleton are considered. Attention is also drawn to some normal and abnormal forms of trauma in infancy and childhood.

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PSYCHOPHYSIOLOGIC GYNECOLOGY

(Continued from Page 1085)

of whom these two factors form the warp and the woof.

Implicit or explicit in the material presented have been the following points.

1. Gynecologic problems can best be diagnosed and treated through the psychophysiologic approach.
2. This approach necessitates constant recollection of the basic principles of psychopathology as well as those of histopathology.
3. Laboratory experiments have begun to clarify the correlation between traumatic emotional events and physiologic change.

4. In psychosomatic conditions it is probable that highly specific personal experiences determine the exact location of pain, abnormal function or tissue change.

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Interpersonal Relations in the Practice of Medicine

By Leo H. Bartemeier, M.D.

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LATE one evening in the summer of 1948, a practicing physician received a telephone call from a young man who said that he and his wife were desperate over the sudden illness of their four-year-old daughter. They were afraid that she might be suffering from poliomyelitis. From the description he gave of the signs of her illness the physician had good reason to think the same. The man then said that they realized the hour was late; that they were strangers to the doctor and that they lived far out in one of the suburbs. Would he come? Without any hesitation the physician told the stranger he would arrive within the hour. After he had examined the child, he made arrangements for her admission to an infectious disease hospital and he remained with the family until the ambulance arrived. Then, and only then, did he go his way.

Why did this physician go to all this trouble on behalf of total strangers, at a late hour, after a long day of busy hospital and office practice? Why did he not tell them that in all probability their child needed immediate hospitalization and that he would make the necessary arrangements for this from his office? He acted as he did because he knew these parents were severely frightened and that they probably had good reason to feel frightened. He knew in advance the probable course he would follow once he had seen their child. But he also knew that by going to them as quickly as possible and remaining with them that they would be greatly relieved of their fright. As a physician, he knew that these parents were suffering from fright, and he regarded it as his responsibility to relieve their suffering. It is only natural that they will always remember him and that they will always be grateful for his understanding.

I have not cited this incident because it may appear to be unusual or in any sense dramatic. I can well imagine that there are many among you who have had similar experiences and that

you responded in the same splendid manner. I have cited this episode from the life of one of our colleagues because it illustrates so well the human aspect of medicine which is far more basic in everyday practice than all the truly magnificent progress which our science has achieved, and of which we are the proud possessors. Without this knowledge we would be utterly helpless, but without the humanitarian motivation which led us into becoming physicians we would become impersonal technicians devoid of our fundamental significance. The application of scientific theory and the utilization of scientific techniques for the alleviation of human suffering will always be structured within the foundation of interpersonal relations. The emotions and feelings are older and deeper than the intellect and all intellectual development. We are human beings first and physicians only later, and the more of our humanism we retain through the years of our becoming scientists, the more competent we become as doctors of medicine. The danger of over-evaluating the scientific and technological aspects of medicine has been avoided by the modifications in undergraduate medical curricula, which now include instruction regarding the emotional factors in illness and the role of interpersonal relations in the practice of medicine.

There are many patients in the practice of every physician who are as frightened as the parents of the poliomyelitic child. Living in an increasingly insecure world is frightening to many but the fright of the majority is concealed by a myriad of signs and symptoms of illness from which they seek relief and simultaneously struggle against their physicians when they attempt to relieve them. They tend to feel improved, less anxious and less insecure, more through the calm and the patience of their doctors than because of the medicines prescribed for them. Because they are frightened they are extremely sensitive to feelings of doubt, uncertainty or uneasiness on the part of their physicians. Many practitioners of medicine render these patients their best assistance more

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through their calm, firm, quiet and unruffled attitude than through anything they say to them. The emotionally sick may be likened to very young children who remain quiet and feel secure as long as their mothers remain calm and collected. There is much in these relations that belongs to the concept of emotional contagion. The family doctors of fifty years ago were much more aware of this principle, which is basic in all medical practice and older than medicine itself, than we are today.

It is a mistaken notion that a physician must please his patients, in the sense that he must yield to all their wishes or that he must give them something by way of medicines, so that they will continue in his care. Those who follow this pattern thereby reveal a definite disturbance in their interpersonal relations. They may be brilliant in their own right; their diagnostic acumen may be excellent, but they are handicapped emotionally in their relations with others because they lack confidence in themselves or are afraid of their patients becoming angry with them. There are others whose relations with their patients are not nearly as helpful as they might be because of their authoritarian attitudes and their severity, which make their patients afraid of them.

The quality of a physician's relation with his office nurse or his receptionist is often reflected in her attitude toward his patients. If they complain to him of the way she speaks to them or the manner in which she attends to their requests, the physician will do well to reflect on how he manages his relationship with her. These situations are similar to family situations in which a mother's irritability and lack of consideration for her children are reflections of her dissatisfaction with their father. This is not to say that nurses, or mothers, manage their relations as well as they might. It is only to point out that feelings of resentment are easily displaceable, particularly toward those who are dependent and helpless. Some patients have a more satisfying relation with their doctor's nurse than they do with the doctor himself. They turn to her frequently for advice and even ask her to suggest remedies for some of their complaints. They tell her she understands them better, and in all respects they behave like they did in their childhood when their mother was more available and they were less fearful and felt closer to her than they did to their father. These re-editions of parent-child relations are commonplace in medical practice. They are

wholly acceptable to some practitioners, who believe their office nurse can invariably use good judgment and who entrust her with responsibilities which her training has not prepared her to assume. They rationalize that they are too busy to discuss everything with their patients themselves but they are in fact far more dependent upon their nurses than they realize. Because they do not realize it, they are not motivated to alter the situation.

This lack of self-awareness in one's relations with others prevents the possibility of many desirable changes. It is the greatest single obstacle to the rendering of more effective medical care by many physicians. Those who *are* aware of themselves and of what they say to patients, and the effects of their pronouncements on their patients and their families, are invariably recognized as the best physicians in their community. Self-awareness is often painful to one's self-regard but without it one is apt to do and to say many things which may prolong illness or interfere with recovery. The lack of self-awareness in the practice of medicine is the first reason why we cannot see ourselves as others see us, why we unknowingly offend, and unintentionally disregard what others try to tell us.

Every doctor is blamed, criticized or denounced by *some* of his patients or their relatives. Many doctors are accused of being indifferent, of being negligent or of being too interested in their professional fees. Some doctors are threatened, compared unfavorably with their colleagues or railed against because pain or distress persists and improvement does not occur. Regardless of whether complaints and criticisms are based on fact or fancy, every physician receives them. The doctor who reacts to these personal attacks by discharging his own feelings thereby abandons his role as a doctor of medicine and the authority with which he has been endowed. The physician, who, instead of reacting, remains calm and attempts to evaluate the justification or the lack of justification for the patient's criticisms, thereby engages in an effort which may be of value to the patient and to himself. If, in addition, the doctor seeks to discover the irrational basis of the patient's feelings, he may acquire an understanding that may assist him to treat the patient more effectively.

Some persons are impelled to criticize their doctors because they are afraid of their tender and affectionate feelings. Others try to provoke their physicians in order to test their doctor's

devotion. The great majority, however, transfer to their physician some of the hatred and resentment they often experienced toward one or both of their parents in their childhood and which they were never able to express. These irrational elements of the past are revived in all interpersonal relations in adult life. In the practice of medicine they are the source of the power and influence with which people endow their physicians. The relations of sick people to their doctors always re-awaken some of the feelings which they as children had for one of their parents. There is an urgent need for every physician to understand and to recognize the existence of these feelings in his relations with his patients. To ignore them or to attempt to deny that they are present can only give rise to misunderstanding much that takes place in one's relation to those who entrust us with their life or the life of a member of their family. To misunderstand the nature of the feelings which a sick person manifests toward his doctor may result in failure to relieve him of his illness.

It seems pertinent to this discussion to point out that many families are, as we say, closely knit, and it is this strength of feeling which each has for the other that results in all of them becoming deeply affected whenever any one of them become ill. In such instances the care of the patient includes the care of the patient's family, and the quality of the doctor's relations with the family often determines how much or how little he may be able to benefit the patient. The attitudes of many relatives tend to increase or diminish the confidence which patients have in their physicians. During the long treatment of those who suffer with chronic diseases, the influence of a close relative, who takes it upon himself to function as an outpost for the physician, often sustains them through their periods of discouragement. Without the benefit of these relations with the families of patients, the practice of medicine would not only become more difficult but even impossible. Fifty years ago when obstetrical deliveries were accomplished in the homes, husbands were called upon to administer the anesthetic, and today and tomorrow women everywhere function as the physician's nurse-assistants.

If the family of a patient criticize the treatment

by the doctor, would it not be wiser to try to understand the reason for their criticism than to try to disregard it? Is any physician entitled to the belief that he is omniscient or that the family *always* know less than he does about the patient? The majority of medical practitioners know the value of seeing their patients through the eyes of the family, and as they listen they often discern how the attitude of a husband or wife, a father or a mother, has contributed to the patient's illness. This knowledge is of value in estimating the prognosis, in planning the treatment and in learning how to work with the relative in behalf of the patient. It is well known and within the experience of every physician that some patients undergo a remarkable improvement during the absence of the family, just as children who are severe feeding problems at home have larger appetites and eat most heartily whenever they have a meal at a neighbor's. There are some persons who unknowingly contribute so much to the illness of someone with whom they are closely associated that the sick one cannot be relieved without both of them receiving treatment.

All of these activities bear witness to the fact that the interpersonal relations between patients, their families and their physicians comprise the keystone of medical practice. This is well known but its significance tends to be overlooked, taken for granted or not sufficiently appreciated. There is always need to have the same confidence and trust in the families of the sick as we have in the sick ones themselves. Those whose thinking and judgment are not distorted by suffering are the ones upon whom we can depend for the more reliable information. Many a history obtained from a patient is inaccurate or inadequate and can only be corrected or completed by a member of the family.

If we are to achieve and maintain good interpersonal relations in the practice of medicine, we need to have as much interest and concern for the feelings of our patients and their families as we have in the physical aspects of their illnesses. We need to regard our relations with each of them as significant as our scientific knowledge and the medicines we prescribe. And finally, we need to maintain a constant awareness of our own feelings in our daily efforts in behalf of the sick.

Arabian Medicine in the Post-Koranic Period

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THE primitive medical concepts manifested throughout the pages of the Koran¹ are surely no gauge of the secular medical knowledge which developed among the Arabian peoples during the Middle Ages. Ninth century records indicate that higher standards of universal knowledge existed among these Arabians than among any other contemporary people and that there were Arabian physicians who were not only trained in Greek and especially Galenic medicine but also in philosophy, mathematics, astronomy, law and theology. A mass of erudition was conveyed orally by *rawies* (reciters) from generation to generation. There were medical schools in Mesopotamia, Bagdad and Persia which taught systems based upon the plan of the Alexandrian schools.²

Arabic medicine is an outgrowth of the Arabic world outside of Arabia. It owed neither seed nor soil to the Arabian peninsula. It was written in the Arabic language which the physicians of the age employed regardless of their nationality. The seed of the new learning was the legacy of Hellenism. The soil was Syria, where the Greek civilization was still in existence, and Persia, where the University of Jondisabur flourished. Yet the stimulus that quickened the intellectual life and induced the first vigorous growth of scholarly advance came from the religion of the Arabs.

Of course, there were in Arabia, as elsewhere, medical healers who disregarded medical standards and resorted to magic and similar deceptions. According to no less an authority than Rhazes, there were many doctors who employed a great deal of trickery in their practice. Many customarily hired confederates who claimed to be patients and spread the good word that their employer had wrought miraculous recoveries on them.³

The status of Arabian medicine in the early medieval period may best be derived by perusing

the secular literature that developed after the completion of the Koran. One of the most celebrated of these texts is the "Arabian Nights," termed in Arabic, "*Alf-Lailat wa Laila*"—"The One Thousand and One Nights." This Arabic work includes material taken from the Indian and Persian languages reinforced with many Arabic elements. Some of these stories go back to the period of the Koran. The entire work, in its present form, seems to have been collected into one large corpus in about the thirteenth century A.D.⁴

Abu al Husn

The story which throws light upon the medicine of that period goes back to the reign of Caliph Harun al Rashid (786-802) at the end of the eighth century. It deals with one named Abu al Husn ("Father of Beauty"), an heir who squandered all his wealth recklessly and was left with one beautiful slave girl named Tawaddud who possessed an extraordinary amount of intellect and varied learning.

This slave girl realized her master's plight and urged him to sell her to the Caliph Harun al Rashid in order to raise sufficient money to get him out of his financial difficulties. The Caliph was much impressed with her beauty, but before he consented to purchase her for the stipulated price, he wanted to be convinced of the magnitude of her scholarship. He therefore summoned specialists in all branches of science to test the extent of her knowledge. These scholars put her through severe examinations in law, theology, philosophy, astronomy, astrology, music, chess playing, and medicine. The answers given by the slave girl Tawaddud to her medical examiners furnish a fair idea not only of the sources and aspects of the Arabian medicine of that period but also of the current knowledge of Galenic as

1. Gordon, B. L.: Medicine in the Koran. Journal of the Medical Society of New Jersey, Vol. 52, no. 10, pp. 513-518 (Oct.) 1955.

2. Baas, J. H. Outline of the History of Medicine. English translation by Henderson, H. E., New York, 1889, p. 220.

3. Neuberger, M.: History of Medicine. English translation, Oxford University Press. Henry Frowde, 1910, vol. 1, p. 363.

4. The most complete English translation is that of Sir Richard Burton in twenty-five volumes which contains more than 200 stories, many of which include other stories making a total of almost 400 stories. The present writer has availed himself of the use of the Macmillan Company edition, New York (especially vol. 5, pp. 218-227).

well as Talmudic medicine.⁵ Her replies to the queries are of great medical interest.

After she was questioned by the Islamic theologian and came out victorious, there "came forward the skilled physician and said to her, 'We are free of theology and now to physiology. Tell me, therefore, how is man made? How many veins, bones and vertebrae are there in his body? Which is the first and chief vein and why was Adam named Adam?'"⁶

She replied, "Adam was called Adam, because of his *udmah*, that is, the wheaten colour of his complexion and also (it is said) because he was created of the *adim* (the earth).⁷ . . . There were created for him seven doors in his head, viz., the eyes, the ears, the nostrils and the mouth, and two passages, before and behind. The eyes were made the seat of the sight-sense, the mouth the seat of the taste-sense and the tongue to utter what is in the heart of man."⁸

After describing the biblical story of the composition of man she proceeds to the chemical and physical basis of the structure of man.⁹ She then continues with the humoral physiology of Hippocrates and finally discusses the mechanism of man.

According to Tawaddud, Adam was made of a compound of the four elements: water, earth, fire and air. The yellow bile is the humour of fire, being hot-dry; the black bile that of earth, being cold-dry; the phlegm that of water, being cold-moist, and the blood that of air, being hot-moist. There were made in man 360 veins¹⁰ and 249 bones.¹¹

There are three souls or spirits: the animal, the rational and the natural, to each of which is allotted its proper function. This is the Platonic idea of the division of the soul into three parts.

Tawaddud then goes on to speak of the wisdom of the Creator in the formation of each and every organ of the body. Here she gives voice to Galen's concept of teleology:

5. A number of Talmudic academies flourished at that period in Mesopotamia, namely Nisibis, Nehardea, Pumpeditha and Sura; the last was still in existence at the end of the seventh century.

6. Burton, R.: *Arabian Nights; opus cited*, vol. 5, p. 218.

7. *Ibid.* p. 218.

8. *Ibid.* cf. Midrash Tadshei 6.

9. The chemical composition of the four elements was the teaching of the ancient Greeks and was still in vogue at the time of Galen, and for centuries thereafter.

10. Burton, R.: *opus cited*; cf. Targum Jonanan ben Uziel: Genesis 3:77.

11. Mishna Oholot 1:8.

"Moreover, Allah made him (i.e., Adam) a heart and spleen and lungs and six intestines¹² and a liver and two kidneys and buttocks and brain and bones and skin and five senses: hearing, seeing, smell, taste, touch. The heart He set on the left side of the breast and made the stomach the guide and governor thereof. He appointed the lungs for a fan to the heart¹³ and established the liver on the right side, opposite thereto. Moreover, He made, besides these, the diaphragm and the viscera and set up the bones of the breast and latticed them with the ribs."

Tawaddud is next interrogated as to how many ventricles are contained in a man's head.¹⁴ She replies, "Three which contain five faculties, styled the intrinsic senses, to wit: common sense, imagination, the thinking faculty, perception and memory."¹⁵

Anatomy

The following is the slave girl's description of the osteology of the human body which is most remarkable for its time, for it includes some additions to Galenic anatomy:

"Man's frame consists of 240 bones,¹⁶ which are divided into three parts: the head, the trunk and the extremities. The head is divided into calvarium and face. The skull is constructed of eight bones, and to it are attached the four osselets of the ear. The face is furnished with an upper jaw of eleven bones and a lower jaw of one; and to these are added the teeth: two and thirty in number, and the os hyoides (the fork bone: Arabic *al-lami*). The trunk is divided into spinal column, breast and basin. The spinal column is made up of four and twenty bones, called *fikar* or vertebrae; the breast, of the breast bone and the ribs, which are four and twenty in number, twelve on each side; and the basin of the hips, the sacrum (or "holy bone")¹⁷ and the os coccygis. The extremities are divided into upper and lower, arms and legs. The arms are again divided firstly into shoulder, comprising shoulder blades and collar bone; secondly into the upper arm which is one bone; thirdly into

12. cf. Genesis Rabba 3, Kahelet Rabba 7.

13. cf. Midrash, Genesis 2:2.

14. cf. Talmud, Berochot 19, Hulin 45.

15. This teaching is entirely modern. It is to be noted that these faculties were believed by all ancients (including the authors of the Holy Scripture and the Koran) to be located in the heart.

16. cf. Mishna Oholot 1:8.

17. It is believed by the orthodox Hebrews that the body will be built from this bone on resurrection day. The bone was known as "lus" or "nut," cf. Leviticus Rabba 18, Kohelet Rabba 12:5.

fore-arm, composed of two bones, the radius and the ulna; and fourthly into the hand, consisting of the wrist, the metacarpus of five, and the fingers, which number five, of three bones each, called the phalanges, except the thumb, which hath but two. The lower extremities are divided, firstly into thigh, which hath one bone; secondly into leg, composed of three bones: the tibia, the fibula and the patella; and thirdly into the foot, divided like the hand, into tarsus, metatarsus and toes; and is composed of seven bones, ranged in two rows, two in one and five in the other; and the metatarsus is composed of five bones and the toes number five, each of three phalanges except the big toe which hath only two."¹⁸

No description is given of the muscles or ligaments, but the angiology of the human system and the function of the organs are discussed:

"The aorta, from which they (i.e., the blood vessels) ramify, and they are many, none knoweth the tale of them save He who created them; but I repeat, it is said that they number three hundred and sixty. Moreover, Allah hath appointed the tongue as interpreter for the thought, the eyes to serve as lanterns, the nostrils to smell with, and the hands for prehensors. The liver is the seat of pity, the spleen of laughter and the kidneys of craft; the lungs are ventilators, the stomach the storehouse and the heart the prop and pillar of the body. When the heart is sound, the whole body is sound,¹⁹ and when the heart is corrupt, the whole body is corrupt."

The following concerns itself with diagnosis:

"A physician, who is a man of understanding, looketh into the state of the body and is guided by the feel of the hands, according as they be firm or flabby, hot or cool, moist or dry. Internal disorders are also indicated by external symptoms, such as yellowness of the white of the eyes, which denoteth jaundice, and the bending back, which denoteth disease of the lungs." . . . "The science of the diagnosis of disease by internal symptoms is founded upon six canons: (1) the patient's actions; (2) what is evacuated from his body; (3) the nature of the pains; (4) the site thereof; (5) swelling and (6) effluvia given off his person."

Headache is produced "by the ingestion of food upon food, before the first be digested, and by fullness upon fullness; this it is that wasteth peoples. He who would live long, let him be early

with the morning-meal and not late with the evening-meal; let him be sparing of commerce with women and wary of such depletory measures as cupping and blood-letting; and let him make of his belly three parts, one for food, one for drink and the third for air; for that a man's intestines are eighteen spans in length and it becometh that he appoint six for meat, six for drink and six for breath. If he walk, let him go gently; it will be wholesomer for him and better for his body and more in accordance with the saying of the Almighty, 'Walk not proudly on the earth.'"²⁰

"The symptoms (of excessive yellow bile) are a sallow complexion and a bitter taste in the mouth with dryness; failure of the appetite, venereal and other, and rapid pulse; and the patient hath to fear high fever and delirium and eruptions and jaundice and tumour and ulcers of the bowels and excessive thirst."

Excessive black bile gives rise to "false appetite and great mental disquiet . . . and it behooveth that it be evacuated, else it will generate melancholia and leprosy and cancer and disease of the spleen and ulceration of the bowels."

The art of medicine is divided into two parts: the art of diagnosing diseases and that of restoring the diseased body to health.

The drinking of medicine is most efficacious "when the sap runs in the wood and the grape thickens in the cluster and the two suspicious planets, Jupiter and Venus, are in the ascendant; then setteth in the proper season for drinking of drugs and doing away of disease."

Diet

The query is asked: "What time is it, when, if a man drink water from a new vessel, the drink is sweeter and lighter or more digestible to him than at another time, and there ascendeth to him a pleasant fragrance and a penetrating?"

The answer is given:

"When he waiteth awhile after eating, as quoth the poet:

'Drink not upon thy food in haste but wait awhile;
Else thou with halter shalt thy frame to sickness lead:

And patient bear a little thirst from food, then drink;

And thus, O brother, haply thou shalt wine thy need.'"²¹

20. Koran 7:39.

21. Educated Arabs can quote many a verse bearing upon domestic medicine and reminding us of the lines bequeathed to Europe by the School of Salerno.

18. cf. Mishna Oholot 1:8.

19. Jerusalem Talmud 8:4.

To prevent disease, the best food is "that which is not eaten but after hunger, and when it is eaten, the ribs are not filled with it, even as saith Galen the physician, 'Whoso will take in food, let him go slowly and he shall not go wrongly.' . . . 'The stomach is the house of disease, and diet is the head of healing; for the origin of all sickness is indigestion, that is to say, corruption of the meat in the stomach.'"

Concerning the *hammam* (bath), "Let not the full man enter it. Quoth the Prophet, 'The bath is the blessing of the house, for that it cleanseth the body and calleth to mind the Fire.'" The best baths are "those whose waters are sweet and whose space is ample and which are kept well aired; their atmosphere representing the four seasons—autumn and summer and winter and spring."²²

The best food is "that which women make and which hath not cost overmuch trouble and which is readily digested. The most excellent of food is *brewis*²³ (bread sopped in broth). According to the saying of the Prophet, 'Brewis excelleth other food, even as Ayishah excelleth other women.'" According to the Prophet, meat "is the delight of this world and the next world." Fruits should be eaten only when ripe and not out of season. Endive is the healthiest vegetable.

"Drink it (water) not in large quantities nor swallow it by gulps, or it will give thee headache and cause diverse kinds of harm; neither drink it immediately after leaving the *hammam* (bath) nor after carnal copulation or eating (except it be after the lapse of fifteen minutes for a young man and forty for an old man), nor after waking from sleep."

Concerning alcoholic beverages, "Doth not the prohibition suffice thee in the Book of almighty Allah, where He saith, 'Verily wine and lots and images, and the divining arrows are an abomination, of Satan's work; therefore avoid them, that ye may prosper.' And again, 'They will ask thee concerning wine and lots: Answer, In both there is great sin and also some things of use unto men but their sinfulness is greater than their use.'"²⁴

22. Personal cleanliness was a feature of the Arab world as the lack of it was characteristic of contemporary Europe. The scrupulous cleansing doubtless arose from the frequent ablution required by Moslem prayer and other rules of life.

23. Crumbled bread and hashed meat in broth; or bread, milk and meat. The *Saridah* of Ghassan, cooked with eggs and marrow, was held to be a dainty dish: hence, the Prophet's dictum.

24. Koran 2:216.

As for the advantages that be therein, it disperseth stone and gravel from the kidneys and strengtheneth the viscera and banisheth care, and moveth to generosity and preserveth health and digestion; it conserveth the body, expelleth disease from the joints, purifieth the frame of corrupt humours, engendereth cheerfulness, gladdeneth the heart of man and keepeth up the natural heat: it contracteth the bladder, enforceth the liver and removeth obstructions, reddeneth the cheeks, cleareth away maggots from the brain and deferreth grey hairs. In short, had not Allah (to whom be honour and glory!) forbidden it,²⁵ there is not on the face of the earth aught fit to stand in its stead. As for gambling by lots, it is a game of hazard such as dicing not of skill."

The best wine is "that which is pressed from white grapes and kept eighty days or more after fermentation: it resembleth not water and indeed there is nothing on the surface of the earth like unto it."

Cupping

Cupping "is for him who is over full of blood and who hath no defect therein; and whoso would be cupped, let it be during the wane of the moon, on a day without cloud, wind or rain and on the seventeenth of the month. If it fall on a Tuesday, it will be the more efficacious, and nothing is more salutary for the brain and eyes and for clearing the intellect than cupping. One should be cupped 'on the spittle,' that is, in the morning before eating, for this fortifieth the wit and the memory. It is reported of the Prophet that, when anyone complained to him of a pain in the head or legs, he would bid him be cupped and, after cupping, not to eat salt food after fasting, for it engendereth scurvy; neither eat sour things as curdled milk immediately after cupping."

Cupping should be avoided "on Sabbaths or Saturdays and Wednesdays, and let him who is cupped on those days blame none but himself. Moreover, one should not be cupped in very hot weather nor in very cold weather: and the best season for cupping is springtide."²⁶

25. Liberal Moslems observe that the Koranic prohibition is not absolute and there is no threat of Hell for infraction. Yet Mohammed doubtless forbade all strong alcoholic beverages and the occasion of his so doing is well known (Pilgrimage 2:322).

26. Many of these regulations are found in Talmudic literature.

Copulation

Concerning sexual intercourse,²⁷ "Copulation hath in it many and exceeding virtues and praiseworthy qualities, amongst which are, that it lighteneth a body full of black bile and calmeth the heat of love and induceth affection and dilateth the heart and dispelleth the sadness of solitude; and the excess of it is more harmful in summer and autumn than in spring and winter." Sexual relations are best, "if by night, after food is digested and, if by day, after the morning meal. It banisheth trouble and disquiet, calmeth love and wrath and is good for ulcers, especially in a cold and dry humour; on the other hand excess of it weakeneth the sight and engendereth pains in the legs and head and back: and beware, beware of carnal connection with old women, for they are deadly. Quoth the Imam Ali, 'Four things kill and ruin the body: entering the *hammam* (bath) on a full stomach; eating salt food; copulation on a plethora of blood and lying with an ailing woman; for she will weaken thy strength and infect thy frame with sickness; and an old woman is deadly poison.'²⁸ And quoth one (sage) 'Beware of taking an old woman to wife, though she be richer in hoards than Karun.'²⁹

Sexual relations are most successful when "the woman be tender of years, comely of shape, fair of face, with large breasts and of noble race." Intercourse with such a woman "will add to thee strength and health of body."

"There is in man a vein which feedeth all the other veins. Now water is collected from the three hundred and sixty veins and, in the form of red blood, entereth the left testicle, where it is decocted, by the heat of temperament inherent in the son of Adam, into a thick, white liquid, whose odour is as that of the palm-spathe."³⁰

Arabian Medicine

Regardless of the nature of Arabian Nights—whether all fiction or part fact—the writer of the story of Abu al Husn and his slave girl must have been acquainted with many rational medical concepts including the humoral theory, the theory of

the four elements, and a considerable knowledge of human anatomy physiology and hygiene.

That the Arabian physician was held in high esteem is shown by the following tale:

"The most wonderful of the events that happened to me in my younger days (said the physician) was this: I was residing in Damascus, where I learned and practiced my art; and while I was thus occupied, one day there came to me a Mameluke from the house of the governor of the city; so I went forth with him, and accompanied him to the governor's residence. I entered, and beheld at the upper end of the saloon, a sofa of alabaster overlaid with plates of gold, upon which was reclining a sick man. He was young; and a person more comely had not been seen of his age. Seating myself at his head I uttered a prayer for his restoration and he made a sign to me with his eye. I then said to him, 'O, my master, stretch forth to me thy hand': whereupon he put forth his left hand. I was surprised at that, and said within myself, 'What self-conceit!' I felt his pulse, however, and wrote a prescription for him. I continued visiting him for a period of ten days, until he recovered his strength. He entered the bath and washed himself and came forth. Then the governor conferred upon me a handsome dress of honor and appointed me superintendent of the hospital of Damascus."

This story indicates the ability of the doctors of the age to cure their patients and is illustrative of the high standing of certain members of the medical profession.

There is another story in a lighter vein told by a doctor which contains a useful lesson for the sick. It tells of a man who was afflicted with severe pain in the stomach. He sent for a doctor. The doctor inquired as to what the sick man had eaten. The patient said he had eaten a large quantity of burnt bread. The doctor prescribed an eye lotion. This greatly astonished the patient who complained that this was certainly no occasion for horseplay. The doctor assured him that he had prescribed advisedly. "I consider," he said, "that it is necessary to cure your eyes in order that you may see the folly of again eating burnt bread."³¹

On one occasion, a man fainted (perhaps conveniently) in the street close to a physician of undoubted reputation. The physician, using his

27. According to the text, Tawaddud hesitated to answer this question and hung her head in shame and confusion before the Caliph's majesty. Thereupon the Caliph insisted that she answer.

28. This notion is of great antiquity.

29. The Hebrew Korah: Numbers 16. This follows a Talmudic tradition that Korah was immensely wealthy.

30. All the aforementioned text is taken from Burton's translation of *The Arabian Nights*.

31. Burton, Sir R.: *Arabian Nights*, *opus cited*.

cane as a cudgel and summoning the bystanders to follow his example, beat the sick man upon the soles of his feet and upon his body, until he aroused somewhat. Thereupon the others were encouraged and followed the physician's example. When the sick man, miraculously enough, finally came to, everyone among the assembled Arabians praised the cleverness of the doctor.

Quacks

The following story is interesting because it contrasts the duly qualified physician and the quack.

In a certain town there were two doctors: one of supreme merit and the other, although of not inconsiderable repute, little if anything more than a charlatan and quack. It chanced that the king's daughter became seriously ill. The two doctors were summoned to the palace and the king asked the first physician what he recommended. The good physician expressed his honest and capable opinion concerning the case and stated that a certain medicine contained in the imperial stores would restore the princess to health. "But," said the good doctor, "I am old and weak in sight, and I fear I could scarcely be able to find it, even were I permitted to make a search for the medicine."

Then the other doctor volunteered to make the necessary search. This was permitted, with the result that, not knowing anything about the matter, he selected a drug which was a deadly poison. No sooner had the princess swallowed the draught than she dropped dead on the spot.

In consequence of this catastrophic result, and in full accord with the usual Eastern custom, the careless quack was compelled to drink the remainder of the drug with the inevitable sequel that he just as rapidly passed out of the picture. Thus did the story-teller contrast the work of the qualified medical man with that of the incompetent and disreputable medical man.

At times the Arabian physicians had recourse to mysterious procedures. They wrote with a purgative ink (perhaps prepared from the juice of colocynth and/or scammony) various charms in cups, to purge the faithful patient. They also employed uroscopy and astrology in treating their patients. Such unscientific methods as these were also transmitted by the Arabian physicians to the West.

From a woman's urine, pregnancy was allegedly

diagnosed, and even the sex of the child foretold. Our modern pregnancy tests do not attempt to perform this latter task.

The kind of diagnoses frequently made may be inferred from the following case: Thabet ibn Rorra diagnosed a disease between the ribs and the pericardium, not from any physical findings, but in the following manner (according to the patient): "I showed him my urine glass, and he saw in it what was hidden between my ribs and my pericardium. The concealed disease appeared to him as a stain on a polished sword looks to the eye."

As intimated previously, there are instances of quacks who impressed the sick by performing miraculous cures. They hired men to pose as patients and sent them around the neighborhood of their operations to tell the populace of the wonderful cures the doctor had performed upon them. Sometimes a doctor sent his confederate to find out as much as possible about the patient so that when he attended him for the first time, he appeared to have a profound knowledge of the sick person and his family. Such charlatans, of course, were not the monopoly of the Arabs. The European healing profession was by no means free of such imposters. The use of the magic cap (*tarnkappa*) in Germany which rendered one invisible and therefore invulnerable to the attack of the "angel of death" may be regarded as a similar deception. Siegfried's baptism in dragon's blood by which he became vulnerable only in a place about the size of a leaf in the interscapular region, and Achilles sole vulnerability at the heel, are famous mythological examples of the sort of thing that gullible patients believed possible.

Fees

The fee of such doctors seems always to have been stipulated in advance and every effort was made to collect prior to instituting therapy. As little a chance as possible was taken that the death of the patient might terminate the fee. When a patient appeared to be getting worse, the physician demanded at least half the stipulated fee at once.

Physicians-in-ordinary and court-physicians enjoyed high salaries, and often, attained great wealth. In case their treatment failed, however, or their masters turned on them for other causes, they were subject to imprisonment, whipping and even death.

We must remember, of course, that medieval Arabian conditions and customs are not to be compared with those of our modern society. The relations of medical colleagues with each other were usually on a low level. Detraction or calumny against one's colleagues was the customary procedure. There are instances where physicians actually poisoned their professional competitors in order to get rid of them.

The native medicine of the early Middle Ages in Arabia was for the most part practiced by unlettered and primitive barbarians who were on a lower level than the physicians of the peoples they conquered (i.e., Syria, Egypt, Mesopotamia and Persia). Holding no professional advantage over the physicians of the countries they occupied, they were none-the-less willing to learn from the more educated physicians of the conquered countries. The conquering Arabs did not impose a new civilization on their defeated enemies because of the fact that they had none better to impose. But soon after their conquests were completed they became desirous of absorbing what was best from their vanquished foes. They certainly succeeded in invigorating the scattered civilizations then in decline and breathed into them a breath of new life.

Racial Culture

During the early days of the Islamic Conquest, powerful Arab armies, aflame with religious exultation and aroused with the fruits of victory in one country after another—in the name of Allah and his Prophet Mohammed—had not time nor inclination for cultural activities. The conquerors at first had only one desire, to establish their religious domination firmly over the new territories. As a matter of fact, they at first found many of the practices and customs of their new possessions incompatible with their own and whatever appreciation the invading Arab hordes might have had for the arts and crafts of the peoples of their newly conquered countries was more than offset by a basic antagonism and fear of foreign culture.

Even in these early days of conquest, however, the Arabians had some taste for religious poetry and particularly for Arabic grammar. The latter they felt was very necessary to facilitate the teaching of the Arabic tongue to the peoples of the conquered nations. The conquerors proudly boasted that Arabic was the most perfect tongue ever spoken by mankind.

The attention paid to the study of language produced many grammarians of distinction. A number of dictionaries were compiled, one of which consisted of sixty volumes and had each word illustrated by quotations from the Koran and other classic works. Later encyclopedias were also produced, the most noted one being that which was compiled by Muhammed ibn Abdulah of Granada.

A great change in the cultural activities of the Islamic peoples at large began to take place after the aggressive wars subsided and particularly after some of the Caliphates transferred their capitals from Arabia to Damascus-Syria, where a vestige of the Graeco-Syrian culture still survived. In their new possessions, the conquerors gradually dropped their native customs and practices when their own interests were not at stake and began to emulate the Graeco-Syrian savants. From alchemy, which originally attracted them because of its alluring character, they became interested in chemistry and medicine, and offered hospitality to foreign physicians, scholars, philosophers, and artists.

According to Marmaduke Pickthal, in the entire history of mankind, the Arabians, after their conquests were completed, give the only large scale instance where conquerors voluntarily respected and emulated the conquered. Once Mohammedanism was firmly established, complete religious freedom was permitted. The only tribute exacted from the conquered lands was for the cost of protecting their liberty.³² The Arabs freely allowed their subjects to continue their own legal usages and religious practices and employed no force in their proselytising as was customary in Christian countries.

After the accession of Abu Bakr, father-in-law of Mohammed's favorite wife to the Caliphate, Islam spread into Syria among the monotheistic Nestorians and came in contact with the Hellenism of the Nestorian monasteries—a fact which had an important bearing on the cultural fusion of the Hellenistic and Oriental elements. The Nestorians were the intermediaries between the ancient masters and the victorious Moslems.

It was this Christian sect, the members of which had been exiled to Persia, that first translated Aristotle into Arabic. Once their translations had been begun, they did not cease working on

32. cf. Marmaduke Pickthal: *The Cultural side of Islam*. Published by the Committee of Madras on Islam, 1927.

them for a century and a half, during which time nearly all of the Greek literature in the natural sciences passed into the Arabic language. The Nestorian culture thrived best in Persia during the tolerant rule of the Sassaman dynasty, where the heretical Nestorians found welcome refuge. The Academy of Jondisabur was greatly influenced by the scholarly Nestorians. This academy became the greatest center of learning and attracted students from all the Eastern countries. This university was the first in the East where the system of medicine taught to the students was based on Greek medical science.

Nestorius

The founder of the Nestorian sect was Nestorius who was born at Germanicia, near Mount Taurus, where he studied theology. The Syriac subjects of Seleucis had been Christianized early. However, their views had been leavened by powerful Greek influences and they were unwilling to abandon the wisdom of Hippocrates and Aristotle for the views of the orthodox Patriarchs of the Eastern Christian Church. A major schism arose, and this heretic sect of Christians—at the head of which was Nestorius—established what is known as the Nestorian Church. The members of this schismatic subdivision acknowledged Christ but clung fiercely to the philosophy of Greece.

Most of their cities were originally Greek colonies in which institutions had been set up modeled after those of Athens. Richly endowed with the spirit of speculative science, they remained at heart true to the old traditions. Nestorius' fame as a scholar and teacher of the Christian religion became so widely spread that he was consecrated as a Patriarch in Constantinople. After a few years in office he became the victim of jealousies and intrigues and was deposed from his patriarchal position in 431 by the Council of Ephesus. The heretical doctrine imputed to him consisted of the allegation that he denied the complete mer-

gence of the divine and human natures into Christ, and that he claimed that Mary, the mother of Christ, ought not to be called the mother of God. He was retired into the monastery of Antioch in 435, and from this institution, he was banished to Petra, Arabia, and later to the Great Oasis in Upper Egypt.

His followers fled eastward. Many of them went to Edessa, where a school of medicine had been flourishing for centuries. The school was the center of Nestorian activities until 489, when it was closed by order of the Emperor Zeno, thus causing a further dispersion of the Nestorians. These zealous Nestorians then proceeded to carry the doctrines of Nestorius throughout the whole length of Asia. The Nestorians for many centuries formed the main links between East and West. In 762 considerable of their number came to Bagdad.

The Nestorians had a large share in the translation of many Greek works on mathematics and medicine into Syriac. Their activity continued until the ninth century. The translations of classic Greek works into Arabic were generally made with the help of Syriac versions. The Nestorians and Jews were especially well fitted for this task because of their knowledge of languages. Members of these groups had a first class knowledge of Greek, Syriac, Arabic and Persian.

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4. Ophthalmology in the Bible and in the Talmud. *Arch. Ophthalmol.*, 9:751-788 (May) 1933.

Also

Gordon, M. B.: Medicine among the ancient Hebrews. *Isis*, 33: (part 4, No. 90) 454-485 (Dec.) 1941.

CATALOG OF HEALTH FILMS FOR TV

An excellent catalog of public health motion picture films cleared for use on television has been prepared by public health officials of the Kalamazoo City-County Health Department. Entitled, "Health Education by Television," the catalog contains a list of films which were selected and shown on the "Here's to Your Health"

public service program on Kalamazoo's station WKZO-TV. The AMA has been granted permission to reproduce this catalog and make it available without charge to those interested in using health films on television. Requests for the catalog should be made to the AMA Committee on Motion Pictures and Medical Television.

This Opportunity Doesn't Expire In November

This year of all years—particularly in the next few weeks—the doctor of medicine must recognize his duties as a citizen.

Yes, Doctor, your first job is to be scientific—to be the best medical man you are able to be, in the interest of constantly better service to your patients. But there's another side that every doctor of medicine must possess if he would help preserve scientific medicine as a free entity in the best interests of the people: the doctor must be interested in socio-economic matters, including politics (and I use the word "politics" in its true sense).

Maybe it's a cliché to say that our country is "at the crossroads." Nevertheless, that situation does exist today, and physicians must fully realize their opportunities as good citizens as well as their responsibilities as good doctors.

I hold it a privilege to urge every MSMS member to become acutely active as a citizen, which includes avid interest in civic and governmental affairs on the national, state, and local levels. To be blunt, I make bold to say: Maintain your interest in politics or politics will lose its interest in you. And here the "you" refers to you, not as practitioner of medicine but as a member of the body politic. Someone has said, "Bad officials are elected by good citizens who do not vote."

Finally, your obligation is not one that expires on Election Day, November 6, 1956. Your duties as a citizen, as one working for the constant betterment of the people and your country as a whole, are permanent. Your *temporary* interest would be only a bid for victory to those whose permanent job it is to try to exchange our American freedoms for the compulsions and constraints of Iron Curtain policies. Doctor, be an active citizen today, as well as on next November 6, and during all your days.

* * *

My tenure of office as your President has been a busy but pleasant experience. I come to the end with gratitude to you all for having allowed me this greatest honor of my days. As Past President of the best State Medical Society in the land, I pledge a continuation of my great zeal for MSMS. I shall work for all its projects and consider it a privilege to continue to labor in behalf of its policies because its policies are not selfish—they are not for the physicians alone but for those who are served by the physicians, the people of Michigan.

W.B. Jones

President, Michigan State Medical Society

President's



Message

Editorial

MEDICAL EDUCATION

In the ten years ending in 1954, the two medical schools in Michigan graduated 1,658 doctors of medicine who passed the requirements of the Michigan State Board of Registration in Medicine and were licensed to practice in our state, 1,057 were from the University of Michigan and 601 from Wayne. During the same ten-year period, the State Board licensed 2,635 doctors from other states and Canada and twenty-eight from foreign schools, making a grand total of 4,321.

Michigan has been derelict in her duty. For ten years, the state has educated and furnished an average of 166 new doctors of medicine per year for the care of our people, but we have imported from other sources an average of 265 per year. We are told there are 174 Michigan students studying medicine in other states now, and an effort is being made to induce as many of them as possible to return to our state for practice, but even that would be an entirely inadequate number.

The University of Michigan School of Medicine is now graduating two-hundred doctors of medicine every year and Wayne University College of Medicine is graduating seventy-five. If all these were to remain in Michigan, the numbers would still be grossly inadequate for our needs. The University of Michigan School of Medicine is training about the maximum efficiently possible for the best instruction. Wayne University College of Medicine now has the physical plant capable of an increased student possibility of about fifty but does not have the funds necessary for the increased faculty needed.

Wayne has been taken over as a state university. The State of Michigan has always risen to her responsibilities and we, the medical profession propose that our legislature make an extra appropriation of sufficient funds to pay for the new teachers required. The most inexpensive and most logical plan to give us another fifty doctors is at our door—a few extra teachers for an already established medical school. The medical profession and many communities strongly urged the establishment of a third medical school in Michigan no later than the early part of this year. We

assume that committees are quietly working on the project but the obvious immediate need which could be supplied is hereby suggested.

Incidentally, there are more than 1,600 osteopaths in Michigan. There are reported to be about 200 Michigan students studying osteopathy, of whom sixty are returning to this state every year.

Such is the situation. Many students who would like to study medicine have been disappointed by inability to find openings—some are reported to have taken osteopathy instead.

Positive action is indicated.

NATIONAL LEGISLATION

The 84th Congress is now history. Several bills have been enacted in which the medical profession is interested.

The amendment to social security (HR. 7225) allowing women to draw benefits at age sixty-two was passed, and we fail to see the logic. Women naturally outlive men and mostly do not have to retire any younger.

Provision was also made for benefits to totally handicapped persons at age fifty. Previously they were not recognized because of handicap, but did retire and become eligible for benefits on account of age. The barrier here has now been broken and the age can be reduced at any time. The medical profession protested the methods of determining disability as encroaching upon government medicine.

The osteopaths were included in social security. The medical profession and the Christian Scientists are now about the only group excluded.

A National Library of Medicine was provided (S.3958) using the Surgeon General's library as a basis and consolidating various units. The place of location is to be left to a commission.

The Omnibus health bill (S. 3430) and ample appropriation was passed, including matching grants for construction of medical research facilities, water pollution control grants and administration, a National institute for Dental Research, traineeships for graduate and practical nurses and

EDITORIAL

public health workers, around-the-clock quarantine inspection of incoming vessels—to mention only a few.

The Hill-Burton program is extended to July 1, 1959.

MEDICAL SOCIETY DUES

Doctors of medicine are probably inborn complainers when the question of dues to meet the expenses of their medical societies comes up. Recently we heard a group of about forty members of a specialty society reject a proposal to increase dues from \$2.00 a year to \$5.00.

The question of dues for our state medical society prompted the Council to make a study of state society dues throughout the nation—a study which received the applause of the AMA Secretary and General Manager in one of his weekly letters.

Nevada pays the most, \$100 a year plus a \$20 special assessment for AMEF; North Dakota and South Dakota pay \$75; New Mexico pays \$70; Wisconsin pays \$65; Arizona pays \$60 now to be increased to \$70 for 1957; Iowa pays \$60 per year; Montana pays \$53.50; and the following pay \$50: California, Colorado, Delaware, Louisiana, Maryland (Baltimore only), Rhode Island, Texas, Utah, Washington, D. C.

Michigan pays \$45 not including the \$10 special assessment for 1956, while Oklahoma pays \$42 and the following pay \$40: Florida, Idaho, Illinois, Kansas, Minnesota, New Hampshire, North Carolina, Oregon and Pennsylvania. The \$35 states are: Kentucky, Maine, Massachusetts, Mississippi, Nebraska, Vermont and Washington. The rest are \$30 or lower, except that after January 1, 1957, Alabama will pay \$50, Maine will be raised to \$60 in June, 1956, and Mississippi will raise its dues \$5 a year to a total of \$50 until 1959.

What do we get for our dues? Doctors of Michigan have built great semi-annual meetings and postgraduate study courses and they have provided the means to distribute to all our membership advances in medical knowledge through medical journals, publications and books. We have revamped and vastly extended the medical education program. We have through our state and local units provided methods and facilities for our patients to afford and have available the best possible medical attention through the establishing of prepaid plans. We have preserved the

private practice of medicine for all who wish to enjoy it. The profession throughout the ages has eliminated most of the great and small plagues. We have established public health services and maintained them. All these have been primarily to benefit our people, to relieve their health burdens and their financial calamities. In doing these things our social structure has risen to unexpected heights. Satisfaction to ourselves has kept pace with the returns to our public.

RHEUMATIC FEVER PROPHYLAXIS PROGRAM

Several questions have arisen concerning the Rheumatic Fever Prophylaxis Program.

1. "Is it possible for me to bill the Michigan Crippled Children Commission for prophylactic administration of benzathine penicillin G provided by the Michigan Department of Health in cases where the acute care was paid for by insurance or in some other fashion not requiring a court order under the Afflicted Children's Act?"

In such instances a physician's certificate should be made in the usual fashion, stating that the child's condition can be remedied in the nearest Michigan State Medical Society Rheumatic Fever Diagnostic Center and that outpatient service is desired. The cost of this consultation will be borne by the Michigan Crippled Children Commission, and the referring physician will receive a report. Since the Michigan Crippled Children Commission cannot pay for conveyance in such cases, these children will have to be taken to the Rheumatic Fever Diagnostic Center at the expense of their family.

After the child has had diagnostic care "for rheumatic fever under the Afflicted Children's Act," his physician may bill the Commission on the prescribed forms for prophylactic administration of benzathine penicillin G at monthly intervals until the child attains the age of twenty-one years. *For this purpose only* no further court order will be required.

2. "This child is allergic to benzathine penicillin G. Is there any way some other antistreptococcal agent can be provided under the joint program of the Michigan Department of Health and the Michigan Crippled Children Commission?"

At the present time, no. Your Michigan State

(Continued on Page 1140)

Detroit Surgical Association

Meeting of April 23, 1956

INTRA-CARDIAC SURGERY USING PUMP OXYGENATOR

LYLE F. JACOBSON, RUDOLPH CASTELLANI, FRANK AKAMINE, and HERBERT ROBB

This is a preliminary report of our initial experimental work in the field of open heart surgery. To date, three methods have been used in our laboratory for achieving the state of total heart-lung by-pass, namely, continuous arterial perfusion, cross-circulation and the pump oxygenator. Each of these methods entails the use of the Sigma motor finger pump and an extra-corporeal system of plastic tubing. The oxygenator employed is comparable to that recently described by Lillehei and devised by DeWall.

A total of thirty dogs have been bypassed, five by means of arterial perfusion, ten by way of cross-circulation and fifteen by way of the pump oxygenator. Physiologic studies during the bypass period indicate that cardiac bypass is accompanied by hypotension, by metabolic acidosis and by an increase in the co-efficient of utilization of oxygen. All these changes were demonstrated to be reversible.

Thus far the overall results are sufficiently encouraging to warrant anticipation of early clinical trial.

REPORT ON CLINICAL AND PHARMACOLOGIC EVALUATION OF A STEROID ANESTHETIC AGENT

L. E. LEE, Jr., M.D., A. CHEN, M.D., and F. A. MONTMORENCY, M.D.

Twenty-one hydroxypregnane (3-20 dione sodium succinate (hydroxydione)) is a pregnandiol derivative designated Viadril. It is the first water soluble steroid agent demonstrating anesthetic properties when administered intravenously.

Clinically we have carefully evaluated cardiovascular and respiratory responses and postoperative complications of Viadril in 143 patients subjected to a wide variety of operations under this as the sole anesthetic or when used as basal anesthesia. Basic pharmacologic evaluation of cardiovascular and respiratory phenomena have been recorded at various electroencephalographic levels of anesthesia in eighteen dogs and nine normal human subjects.

Our preliminary impressions are that there is little alteration in fundamental cardiovascular and respiratory function in patients anesthetized by Viadril. In dogs, Viadril hemolizes the blood in considerable proportion, but we have not found this complication in humans. Viadril decreases

respiratory tidal exchange without significant alteration in minute volume, blood oxygen and CO₂ content or pH. Only slight alterations in cardiac output occur, and may be accounted for on the basis of calculated changes in peripheral resistance. Viadril is a local irritant causing gradations of venous irritation from minor complaint of burning discomfort over the course of the vein used for injection up to and including post-anesthetic evidences of thrombophlebitis. Detailed studies are in progress, but at present our impression is that this is a promising drug, the significance of which is less in Viadril than the possibilities it indicates for improved steroid agents as intravenous anesthetics.

THE MECHANISM OF INTESTINAL RUPTURE FROM NON-PENETRATING ABDOMINAL TRAUMA

THOMAS GEOGHEGAN M.D., and BROCK E. BRUSH, M.D.

It has been commonly taught concerning rupture of the intestine from nonpenetrating abdominal trauma that the perforation is a crush injury which occurs in the fixed portions of the bowel when it is compressed against the spine or pelvis.

A series of experiments was done on dogs in an attempt to reconstruct the mechanism of rupture of the bowel wall in these injuries. The experimental results were compared with a clinical series of twenty such lesions.

Pressures in the gastrointestinal lumen increased to the level of the bursting strength of the bowel wall following abrupt forces in the neighborhood of 16 foot pounds. Severe crushing injuries were associated with intramural hematomata and mesenteric bleeding. Clean perforations of the bowel wall represented bursting lesions occurring at from three to eleven o'clock on the side of the bowel where the main vasa recta pierce the submucosa. The fixation of the bowel by a short mesentery did not appear to have an influence on the location of the lesion. This was borne out in the clinical series, as most perforations were located in mobile loops of small intestine.

Meeting of May 15, 1956

The Detroit Surgical Association held its annual meeting on May 15, 1956, at the Detroit Boat Club. The annual McGraw lecture was given by Dr. James T. Priestley, Professor of Surgery, Mayo Foundation. His topic was "Hypofunctioning Lesions of the Adrenal Gland." The McGraw Medal was awarded to Dr. Charles G. Johnston and Dr. James T. Priestley.

CORRECTS MOST TYPES OF CONSTIPATION

Metamucil®

Blends with the Intestinal Contents, Soothes the Mucosa

*Metamucil is highly refined;
it stimulates the bowel
musculature, not the mucosa.*

When you specify Metamucil in constipation management you are selecting a product which has been made at least 99.6 per cent pure through a complete process of refinement.

All possible irritants (rough parts of the psyllium seed, undesirable oils and similar materials) are discarded during the refining process. A relatively small quantity of purified mucilloid powder is the result. To this is added an equal weight of pure anhydrous dextrose to insure complete dispersion in the colon.

Such meticulous preparation assures that only the bulk-producing mucilloid portion of the psyllium seed remains and that Metamucil will act as a purely "physiologic" constipation corrective, providing bland distention to stimulate the bowel muscularis.

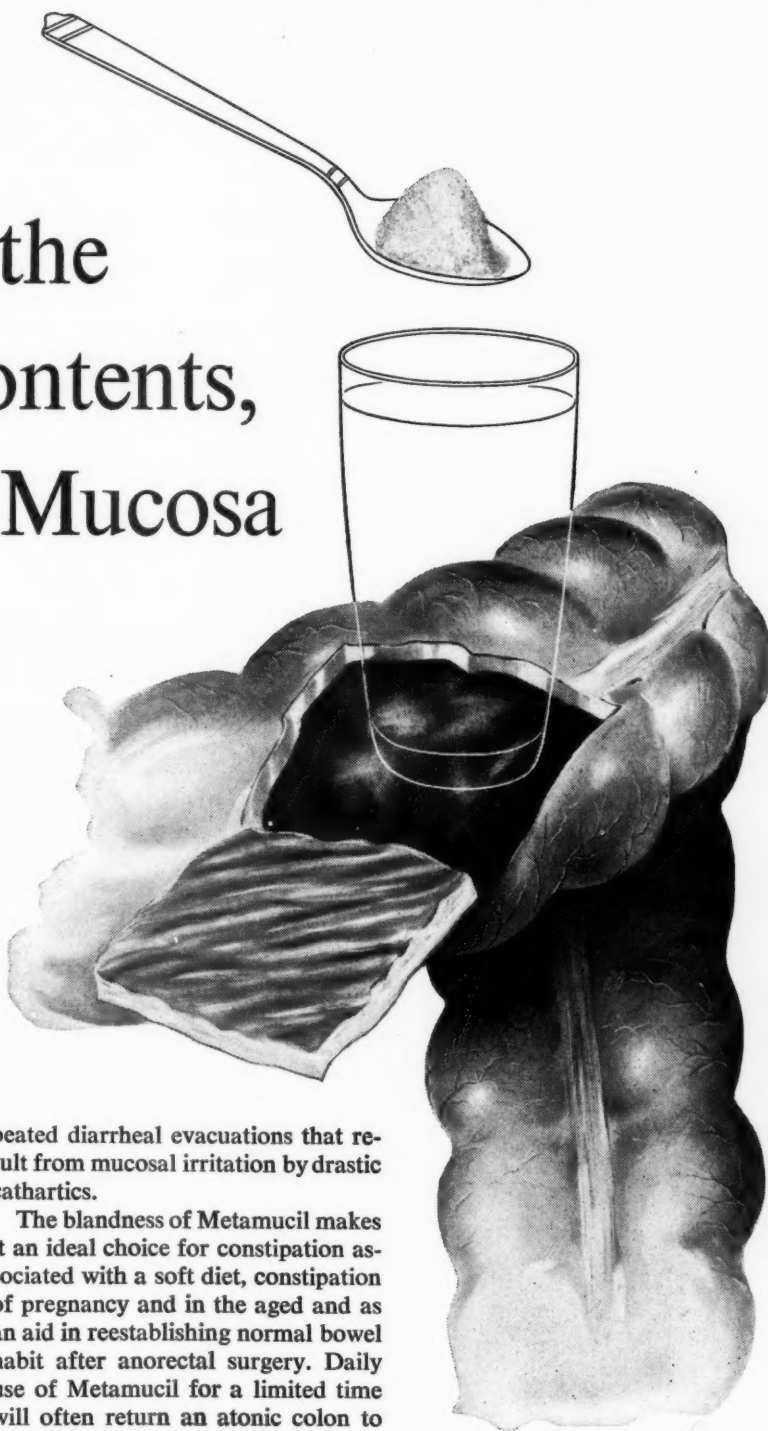
The Metamucil mixture (formed by adding water to Metamucil) elicits gentle colonic reflex peristalsis. Evacuations are normally formed and are not irritating. The bowel stimulation imparted by Metamucil is only sufficient to clear the colon of its contents; patients are not annoyed by the re-

peated diarrheal evacuations that result from mucosal irritation by drastic cathartics.

The blandness of Metamucil makes it an ideal choice for constipation associated with a soft diet, constipation of pregnancy and in the aged and as an aid in reestablishing normal bowel habit after anorectal surgery. Daily use of Metamucil for a limited time will often return an atonic colon to normal function.

Metamucil® is the highly refined mucilloid of *Plantago ovata* (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent. It is supplied in containers of 1 pound—also 4 ounces and 8 ounces.

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SEARLE

Michigan's Department of Health

Albert E. Heustis, M.D., Commissioner

TYPHOID HIGHEST IN TEN YEARS

Michigan is experiencing the same typhoid rise that is taking place in other north central states.

Typhoid fever cases reported to the Michigan Department of Health during the first six months of 1956 totalled thirty, the largest number during the first six months of any year in the last ten.

Study of known carriers in Michigan reveals Phage type E₁ to be the most common type. The source of recent cases seems to be obscure and the usual methods of detection within the close contact group apparently do not apply.

Modern complexities of food processing and distribution make detection of contaminated food increasingly difficult. This makes even more important continued alertness at the local level to find any typhoid carriers among employees in food-connected occupations and to exercise close supervision of known carriers to make sure that they have no contact with food handling or processing.

Data on the thirty typhoid cases are given in the table that follows:

REPORTED CASES OF TYPHOID IN MICHIGAN

During the First Six Months of 1956

Month	County	Age	Sex
January	Jackson	10	F
January	Muskegon	40	F
January	Sanilac	7	F
February	St. Clair	20	M
March	Saginaw	9	F
March	Wayne (Detroit)	10	M
April	Allegan	10	F
April	Eaton	11	M
April	Eaton	37	F
April	Eaton	35	F
April	Eaton	62	M
April	Wayne (Detroit)	18	M
April	Wayne (Detroit)	53	F
May	Branch	37	M
May	Emmet	37	F
May	Genesee	47	M
May	Hillsdale	86	F
May	Isabella	23	F
May	Isabella	34	F
May	Kent	10	M
May	Leelanau	18	M
May	Mecosta	62	M
May	Oakland	12	F
May	Saginaw	16	F
May	Saginaw	55	M
June	Genesee	25	F
June	Ingham	35	F
June	Saginaw	18	F
June	Wayne (Detroit)	64	M
June	Wayne (Detroit)	44	F

CONTROLS MODIFIED ON POLIO VACCINE

Effective August 1, Rule 10 of the Rules and Administrative Policies governing the distribution and use of poliomyelitis vaccine in Michigan was rescinded, permitting vaccine purchased through regular drug outlets to be used for persons of any age. Vaccine usage cards are no longer required for vaccine purchased by physicians.

The Public Health Service is still responsible for the

safety and the potency of each lot of vaccine released but they no longer exercise any control over its distribution, and the product is therefore now on the open market.

Rule 8 governing the use of poliomyelitis vaccine purchased with state funds for free distribution is still in effect. State-purchased vaccine may be used only for children one through fourteen years of age and pregnant women. This priority was established by legislative act. A vaccine usage card is required for each dose of state-purchased vaccine that is used.

The Michigan Department of Health will continue to purchase vaccine for free distribution for the priority group aged one through fourteen and pregnant women, within the limits of its current appropriation for this purpose.

The department urges physicians to continue to give first consideration to the age group fifteen through nineteen years in their use of vaccine purchased by them.

SUMMER FLUORIDE PROGRAM COMPLETED

Some 35,000 Michigan children in forty-two counties had fluoride applications to their teeth this summer in the seventh year of intensive summer fluoride programs. These summer programs supplement the year-around program carried on by many communities, and the combined programs now serve 300,000 Michigan children.

Operating in 160 centers, this summer's activities were sponsored as usual by local health departments, schools and civic groups. A nominal fee paid by parents who can afford it makes the summer programs self-supporting.

The fluoride applications were given this year by fifty-four students from the University of Michigan and the University of Detroit, all junior dentists and dental hygienists. Before going into the field they were given brief, intensive training by dental staff members of the Michigan Department of Health. Work in the field was supervised by local dentists.

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Interpretation of Cervico-Vaginal, Etc.
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Insure against loss of income through the Michigan State Medical Society's comprehensive group accident and sickness insurance plan—

This is the worthy disability program approved by your State Society. The Provident's personal representative (for Michigan exclusively) will contact you at the invitation of the Michigan State Medical Society.

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Gastralme stands out in comparison with other products. In a recent test Gastralme neutralized the acid within 5 minutes and a pH of 6.4-7.1 was maintained for 120 minutes. After 150 minutes, the Gastralme mixture continued to show a pH of 5.2, and it was 180 minutes before the pH dropped to 2.9.

For treatment of
Peptic Ulcer
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In Memoriam

William B. Brace, M.D., Ann Arbor, well known to thousands of students through his years as physician in charge of medical service for men at the University of Michigan Health Service, died April 25 at the age of sixty-one. Born in Detroit, Dr. Brace received his premedical and medical schooling at the University of Michigan, receiving his M.D. in 1923. He remained with the University Hospital after internship, transferring to the Health Service in 1928, and later becoming assistant professor of Hygiene and Public Health in the School of Public Health. Veteran of World War I, he was formerly President of Washtenaw County Medical Society and physician for the University marching band.

Claire H. Carpenter, M.D., Associate Director of the Northwest Branch of Grace Hospital, Detroit, died June 27 following a brief illness. He was sixty-three years old. Born at McBrides, Michigan, he graduated from Northwestern University in 1913 and Hahnemann Medical College in 1918. He interned at Rochester, New York, then served on the psychiatric staff at Traverse City State Hospital until 1924, when he moved to Detroit. He had been Associate Director of Grace Hospital for eleven years.

Louis H. Chamberlain, M.D., age eighty-two, chief of staff at St. Mary's Hospital, Grand Rapids, and a practicing physician and surgeon there for fifty years, died May 12 at Winnetka, Illinois. He was born at Port Dover, Ontario, but lived in Grand Rapids from the age of nine. He received his medical degree from Wayne State University in Detroit, and at one time served as an instructor at the old Grand Rapids Medical College. He was a veteran of World War I, serving as a surgeon in the Army Medical Corps.

E. W. Fitzgerald, M.D., who had practiced in Port Huron since 1946, died July 8 at the age of fifty-five. Born and reared in Detroit, he took premedical studies at the University of Detroit and was graduated in 1925 from St. Louis University Medical School. He interned at Harper Hospital, Detroit, then held a residency at Sloane Hospital for Women, New York City, before entering practice in obstetrics and gynecology in Detroit, remaining for fourteen years before entering military service in 1941. Dr. Fitzgerald served with the navy during World War II, attaining the rank of captain and seeing combat action in many areas of the South Pacific as senior medical officer on the USS President Adams.

William J. Gelhaus, M.D., of Monroe, died suddenly May 30 at age fifty-nine. He was born at New Weston, Ohio, and served in the Navy during World War I before completing his college education. Graduated from

Ohio State University Medical School in 1923, he interned at St. Mary's Hospital, Detroit, and St. Rita Hospital, Lima, Ohio. Dr. Gelhaus had been a physician and surgeon in Monroe since 1929.

Louis O. Horvath, M.D., a Detroit physician for sixteen years, died June 13 at the age of fifty-one. Born in Hungary, he was graduated from Wayne State University College of Medicine in 1938, served his internship at Grace Hospital, then entered private practice.

Julius S. Janci, M.D., aged fifty-one, of Owosso died suddenly May 31. He was born in Butler, Pennsylvania, received his B.S. degree from the University of Michigan, and his M.D. degree from the Wayne State University; interned at Providence and Tassie Hospitals, served in the Army Medical Corps during World War II, reaching the rank of captain. Dr. Janci had practiced medicine in Owosso since 1937.

Abraham Leenhouts, M.D., physician and community leader in Holland for fifty-six years, died July 3, three weeks before his ninetieth birthday. He was born in Zeeland, attended Hope College, and was graduated from the University of Michigan Medical School in 1891. After postgraduate study at Rush Medical School, Chicago, and five years of practice in that city, he established his practice in Holland in 1900. Dr. Leenhouts served in the Army Medical Corps during World War I. He was an emeritus member of MSMS.

Duncan J. Monroe, M.D., retired Elkton physician and a life member of MSMS, died April 21 at the age of eighty-one. He was born at Aldboro, Ontario, reared in Cass City, and graduated from Saginaw Valley Medical College in 1903. After four years of practice at Harrisville, he moved to Elkton in 1907, practicing there until his retirement in 1953.

Allan R. Peterson, M.D., of Daggett, died at age fifty-five of a heart attack on June 24 while attending the Upper Peninsula Medical Society meeting in Sault Ste. Marie. He was President-elect of the Menominee County Medical Society and active in many civic affairs. Born in Marinette, Wisconsin, he graduated from Carroll College, and received his medical degree from Northwestern University in 1928. He had practiced in Daggett for twenty-eight years.

Stanley B. Robertson, M.D., aged sixty-four, a physician and surgeon in Detroit for thirty-seven years, died June 8. Born in Hillsdale, he was graduated from Hillsdale High School and Hillsdale College, then attended medical school at the University of Michigan and the old Detroit College of Medicine (now Wayne State University), receiving his M.D. degree from the latter in 1918.

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Fred L. Robinson, M.D., aged fifty-eight, a practicing physician in Dearborn since 1928, died July 5. He received his M.D. degree from the University of Michigan in 1924.

William Scott Sims, M.D., of Detroit, died suddenly on June 11. A graduate of Meharry Medical College, Nashville, Tennessee, he had practiced in Detroit since his discharge from the Army Medical Corps ten years ago.

Charles A. Teifer, M.D., a practicing physician and surgeon in Muskegon since 1917, died suddenly June 6 at the age of sixty-four. A former president of the Muskegon County Medical Society, he served two terms on the State Board of Registration in Medicine. Born in Trenton, Michigan, graduated from Detroit Central High School, and received his M.D. degree in 1916 from what is now Wayne State University College of Medicine.

Harold L. Van Haltern, M.D., aged forty-eight, a Pontiac radiologist, died suddenly June 23. Born in Athena, Oregon, he was a graduate of the University of Texas Medical School, establishing his practice in Pontiac, eleven years ago.

W. S. Jones, M.D.
President, Michigan State Medical Society
Menominee, Michigan

Dear Dr. Jones:

You and your association can be justly proud of William J. Burns, who served as a member of our faculty during a most successful session of National Institute at Michigan State University.

Mr. Burns distinguished himself as an instructor in the fundamental course on "Membership Problems."

National Institute is a co-operative endeavor sponsored by the Chamber of Commerce of the United States, Michigan State University, and executives of Chambers of Commerce and Associations. This co-operative endeavor is made possible by the support of the sponsoring groups and the aid of instructors and their organizations—who invest in terms of time and money an essential contribution to the success of this training program.

We are grateful to you for making it possible for Mr. Burns to serve on our faculty. However, it is fitting for us to mention that our faculty is chosen with great care, and we hope you consider it a singular compliment that Mr. Burns was selected to serve as instructor for the above course.

Chicago, Illinois
July 24, 1956

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NEWS MEDICAL

MICHIGAN AUTHORS

William H. Beierwaltes, M.D., Ann Arbor, is the author of an article entitled "Thyroid Gland" published in the *JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY*, February, 1956, and condensed in *Current Medical Digest*, June, 1956.

W. S. Reveno, M.D., Detroit, is the author of an article entitled "Gleanings—1955 Meeting American Goiter Association," published in the *Harper Hospital Bulletin*, May-June, 1956.

A. H. Hirschfield, M.D., Detroit, is the author of an article entitled "The Shrinking Ego Area in Schizophrenia," published in the *Harper Hospital Bulletin*, May-June, 1956.

John R. Simpson, M.D., Detroit, is the author of an article entitled "Hypertrophic Osteoarthropathy as an Early Sign of Pulmonary Neoplasm," published in the *Harper Hospital Bulletin*, May-June, 1956.

V. Berg, M.D., and **M. Dufresne, M.D.**, Detroit, are the authors of an article entitled "Excretory Urography in the Pediatric Patient With the Aid of Carbonated Beverage," published in the *Harper Hospital Bulletin*, May-June, 1956.

John C. Mayne, M.D., Detroit, is the author of an article entitled "Abstracts—1955 Meeting Central Association of Obstetricians and Gynecologists," published in *Harper Hospital Bulletin*, May-June, 1956.

William E. Jahsman, M.D., Detroit, is the author of an article entitled "An Approach to the Etiology, Diagnosis and Management of Peripheral Arteriosclerosis," published in *Henry Ford Hospital Medical Bulletin*, June, 1956.

Joseph L. Fleming, M.D., Detroit, is the author of an article entitled "Bilateral Agenesis of Upper Extremity," published in the *Henry Ford Hospital Medical Bulletin*, June, 1956.

M. J. Brennan, M.D., **K. D. McGinnis, M.D.**, and **L. Preuss, M.S.**, Detroit, are the authors of an article entitled "Experience With Intra-Cavitary Radiogold at Henry Ford Hospital," published in the *Henry Ford Hospital Medical Bulletin*, June, 1956.

M. A. Blenkenhorn, M.D., Detroit, is the author of an article entitled "Acute Miliary Disease of the Lung Diagnosis and Treatment," which is an abstract of a presentation before the Henry Ford Hospital Medical Society, and was published in the *Henry Ford Hospital Medical Bulletin*, June, 1956.

David Barsky, M.D., Detroit, is the author of an article entitled "Central Retinal Vein Occlusion Treated with Anticoagulant and Steroid Therapy; Case Report and Discussion," published in the *Henry Ford Hospital Medical Bulletin*, June, 1956.

Charles Long, II, M.D., Detroit, is the author of an article entitled "Myofascial Pain Syndrome," published in the *Henry Ford Hospital Medical Bulletin*, June, 1956.

Richard R. Knowles, M.D., Detroit, is the author of an article entitled "Neurological Disorders Associated With Hepatic Diseases," published in the *Henry Ford Hospital Medical Bulletin*, June, 1956.

Anthony C. Nolke, M.D., Detroit, is the author of an article entitled "Severe Toxic Effects From Aminophylline and Theophylline Suppositories in Children," published in the *Journal of the American Medical Association*, June 23, 1956, and read before the Michigan Branch of the American Academy of Pediatrics, Detroit, September, 1954.

A. Robert Bauer, M.D., Detroit, is the author of an article entitled "Mechanical Respirator for Newborn Infants and Other Patients," published in the *Journal of the American Medical Association*, June 23, 1956.

Ruth M. Ellis, M.D., Pontiac, is the author of an article entitled "How the AMWA Can Help Me in the Pursuit of My Career," published in the *Journal of the American Medical Women's Association*, June, 1956.

Thad H. Joos, M.D., **Norman S. Talner, M.D.**, and **James L. Wilson, M.D.**, Ann Arbor, are the authors of an article entitled "Risk of Surgery in Poliomyelitis Patients Dependent on Respirators," published in the *Journal of the American Medical Association*, July 7, 1956.

Samuel J. Nichamin, M.D., Detroit, is the author of an article entitled "Kartagener's Syndrome in a Newborn Infant," published in the *Journal of the American Medical Association*, July 7, 1956.

Fred Jenner Hodges, M.D., Ann Arbor, is the author of an article entitled "The Growing Importance of Cardiovascular Radiology," based on the Tenth George Winslow Holmes Lecture presented before the New England Roentgen Ray Society, Portland, Maine, May 20, 1955, and published in the *New England Journal of Medicine*, July 5, 1956.

P. W. Pifer, M.D., **M.A. Block, M.D.**, and **C. P. Hodgkinson, M.D.**, F.A.C.S., Detroit, are the authors of an article entitled "Thrombocytopenia and Hemorrhage in Hemolytic Blood Transfusion Reactions," published in *Surgery, Gynecology and Obstetrics*, August, 1956.

J. T. Ferguson, M.D., Traverse City, is the author of an article entitled "Azacyclonol: Use of a New Pharmacologic Agent in Chronic Schizophrenia," published in *Antibiotic Medicine & Clinical Therapy*, July, 1956.

William H. Roberts, M.D., and **J. Reimer Wolter, M.D.**, Ann Arbor, Michigan, are the authors of an article entitled "Ocular Chrysiasis," published in *A.M.A. Archives of Ophthalmology*, July, 1956

A. D. Ruedemann, Jr., M.D., and W. K. Noell, M.D., Detroit, are the authors of an article entitled "The Effect of Epinephrine Upon the Rabbit Electroretinogram," published in *A.M.A. Archives of Ophthalmology*, July, 1956.

M. K. Newman, M.D., George V. Pendy, M.D., A. S. Goldstein, M.D., and Goodwin D. Katzen, M.S., Detroit, are the authors of an article entitled "The Use of Resyl as an Adjunct in the Treatment of Cerebral Palsy," published in the *American Journal of Physical Medicine*, June, 1956.

Z. F. Endress, M.D., and F. R. Schnell, M.D., Pontiac, are the authors of an article entitled "Varicella Pneumonitis," published in *Radiology*, May, 1956.

J. E. Magielski, M.D., Ann Arbor, is the author of an article entitled "The Ear," part of a Symposium on Errors in Early Diagnosis and Treatment of Cancer in the Upper Respiratory Tract," which was presented at the Sixteenth Annual Session of the American Academy of Ophthalmology and Otolaryngology, October, 1955 in Chicago, and published in *Transactions of the American Academy of Ophthalmology and Otolaryngology*, May-June, 1956.

Paul V. Woolley, Jr., M.D., and William A. Evans, Jr., M.D., Detroit, are the authors of an article entitled "Significance of Skeletal Lesions in Infants Resembling Those of Traumatic Origin," published in the *Journal of the American Medical Association*, June 18, 1955.

* * *

Reuben L. Kahn, M.D., world famous scientist, developer of the Kahn Reaction, has been retired by the University of Michigan because of age. He is now relieved of classes and administrative duties, but will continue in the Dermatology Department. He will devote his full time to continuing the lines of research which he has been following.

THE JOURNAL OF THE MICHIGAN STATE MEDICAL SOCIETY in its issue of October, 1948, remembered the twenty-fifth anniversary of Dr. Kahn's great work, and in addition to his picture on the cover presented interesting original papers and bibliographies. We remember with pleasure working with the doctor on that occasion.

The *University Hospital Star*, August, 1956, publishes a good description of the memorial banquet, with a late picture painted in Ann Arbor and presented to the University. Friends have initiated the establishment of a "Reuben L. Kahn Lectureship Fund" in the University. As the fund increases the income will be used for a guest lecture on serology and immunity.

The Editor, the Publication Committee, and the Michigan State Medical Society add their congratulations and felicitations to a great Michigan scientist.

* * *

M. K. Newman, M.D., Detroit, talked on June 18, 1956, to the staff of the Department of Rehabilitation at the University of Iowa on Physical Medicine and Rehabilitation. He was also a speaker at the ninth Annual Conference on Aging, which was held at Ann Arbor, Michigan, on July 10, 1956. The subject of this talk was "Physical Medicine and the Management of the Patient After Hospital Rehabilitation."

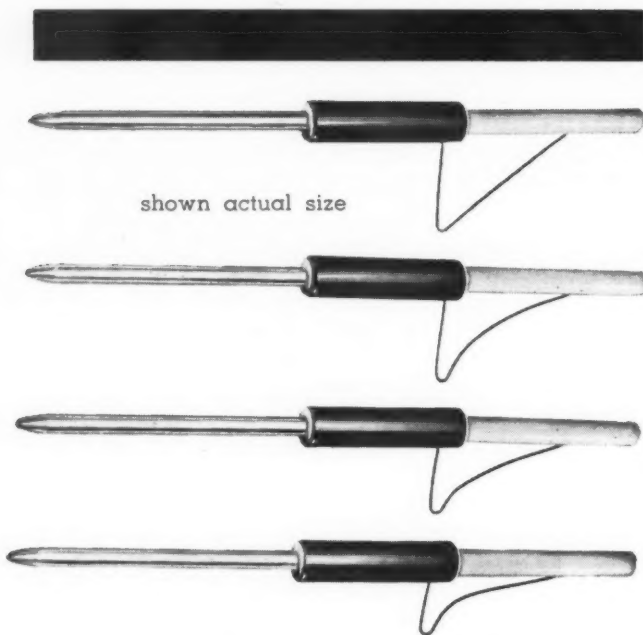
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*Described in his paper which will be sent on request

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In Michigan too much tuberculosis is found too late. The record of newly reported cases each year includes: (1) inactive cases—these were missed while they were active; (2) moderately and far advanced active cases—these were missed in the minimal stage; and (3) cases reported for the first time on death certificates,—these were missed throughout the course of the disease.

Michigan's 1954 record of new TB cases included 4,120 such missed cases, reported too late to prevent the infection of others. To prevent the spread of tuberculosis the aim must be to find all cases and find them in the early stages.

MICHIGAN TUBERCULOSIS ASSOCIATION

* * *

The National Foundation for Infantile Paralysis has announced awards of more than \$8,700 to seven Detroiters for training and research.

Dr. George A. Vidaver, of 20400 Stratford, received a \$4,600 March of Dimes fellowship for advanced training in laboratory research. Dr. Vidaver will study at the Institute for Enzyme Research at the University of Wisconsin.

A scholarship worth \$1,157 was awarded to Carol M. Krohn, of 17337 Snowden, to complete her studies in physical therapy at the University of Michigan.

* * *

Five Wayne University students received \$600 each for 12-week studies at the university's College of Medicine.

Irving M. Miller, of 18297 Woodingham, and Allen R. Taurig, of 2997 Buena Vista, will study public health and preventive medicine.

Gilbert J. Galens, of 18224 Appoline, and Bernard W. Bigley, of 3310 Rochester, will do research in the biological and physical sciences related to medicine.

Bernard J. Fogel, of 3737 Glendale, will study physical medicine and rehabilitation.—*Detroit Free Press*, July 16, 1956.

* * *

A unique medical publication, *Medical Director's Notebook*, from Paul F. MacLeod, M.D., medical director of Eaton Laboratories, Norwich, N. Y., is now being sent monthly by Eaton Laboratories to thousands of physicians throughout the country. The "Notebook" reads like a physician's Elbert Hubbard Scrapbook: it discusses anything and everything that might be of interest to a doctor—informally, philosophically and authoritatively—and reports to the doctor on some of the problems a professional pharmaceutical industry faces.

In the first issue, Dr. MacLeod ranges from medicine in the Confederacy 100 years ago, and the unusual way French doctors report on clinical research, to the psychosomatic aspects of urethritis, the "seventh venereal disease," and, at the end, "Nitrofurans Notes." The "Notes" are short, pointed, easy-to-read excerpts from journal articles on research with the nitrofurans.

IF YOUR PATIENT WANTS TO DRINK THAT'S HIS BUSINESS IF HE WANTS TO QUIT that's our BUSINESS

BRIGHTON HOSPITAL, now in operation for over 2 years, wishes to thank the physicians of Michigan and Ontario for the good reception and the confidence given to us.

We know that today's physician recognizes the many-sided nature of the disease—Alcoholism. Beyond the physical, which requires expert treatment in itself, the alcoholic's physician is plagued, we know, with the equally vital aspects, which make demands on his time and attention, of the emotional, spiritual and mental sickness he notes in his patient.

We believe that Brighton Hospital offers the answer. Physicians can now send their alcoholic patients to Brighton with the certain assurance that they will find expert medical

and nursing attention AND that, if they so desire, patients will be thoroughly indoctrinated with the program of Alcoholics Anonymous.

BRIGHTON HOSPITAL is NOT interested in the patient who merely wishes to be dried out in order to resume drinking. We ARE interested in those patients who really, fervently, seek complete rehabilitation and a way of life FREED from alcohol.

BRIGHTON HOSPITAL is owned and operated by MICHIGAN ALCOHOLIC REHABILITATION FOUNDATION, a non-profit organization devoted to the best possible hospitalization of the alcoholic who seeks to stop drinking.

DOCTORS, we are here to serve you. We are here to serve your patients.

BRIGHTON HOSPITAL

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Brighton, Michigan

Phone: Brighton Academy 7-1211

The next licensure examination of the Michigan State Board of Registration in Medicine will be held in Lansing on October 10, 11, and 12. Applications are to be filed with the Secretary of the Board at 118 Stevens T. Mason Building, Lansing.

* * *

The American Rhinologic Society will hold its annual meeting in Chicago, October 9-13.

The first evening will be devoted to a business session. A series of surgical demonstrations and seminars will be presented in the Illinois Masonic Hospital from 8 a.m. to 10 p.m. on the three following days. These will cover many phases of rhinology and will be conducted under the direction of Dr. Maurice H. Cottle, professor and chairman of the department of otolaryngology, Chicago Medical School.

The annual scientific program will be presented in the Palmer House on the closing day. This will include a morning symposium on "Expanding Horizons in Rhinology," with the following participants: Charles J. Petrille, M.D., New Haven; Norman D. Fischer, M.D., Chapel Hill; Harold S. Ulvestod M.D., Minneapolis; and French K. Hensel, M.D., St. Louis. Guest speakers at the afternoon program will be: Roy S. Giber, M.D., Chicago; Conrad Pirani, M.D., Chicago; and Hubert R. Catchpole, M.D., Chicago. Matthew S. Ersner, M.D., Philadelphia, will be the banquet speaker with President Ralph H. Riggs, M.D., acting as toastmaster. The profession is invited as guests of members.

Further information may be had by writing to Mrs.

Mabel Campbell, corresponding secretary, 834 Wellington Avenue, Chicago 14, Illinois.

* * *

Michigan Blue Cross-Blue Shield enrollment will be open to the general public this year from September 10 through 22. This is the only period of the year during which Blue Cross-Blue Shield coverage can be obtained by individuals and families who cannot enroll through employee, farm or professional groups.

The Blue Cross-Blue Shield Non-Group plan offers far and away the best coverage available for the price, on an individual enrollment basis. For example, the maximum daily hospital room allowance is \$12. The program provides 30 days of hospital care for each family member covered, with another thirty days available each time the member has been out of the hospital at least six months.

Maternity benefits—subject, of course, to the usual nine-month wait from the effective date of the contract—are exactly the same as for any other admission, plus routine nursery care for the newborn.

Blue Shield's Non-Group Plan benefits are the same as for its Group—\$2,500 Family Income certificate except there is a six-month waiting period for T&A's for dependent children and conditions existing at the time the contract becomes effective.

As in previous years, Blue Shield recognizes that the doctors of Michigan, by providing information to their patients, contribute immeasurably to the success of the No-Group campaign. To this end, an initial supply

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of descriptive folders and application cards, with a container, has been supplied with the request that the material be given a prominent place in each physician's waiting room or on his desk. Additional quantities are available on request.

* * *

American Board of Obstetrics and Gynecology.—Applications for certification for the 1957 Part I examinations are now being accepted. Candidates making new application or requesting the reopening of an application must do so before October 1, 1956. Applications are to be accompanied by a list of hospital admissions as outlined in the current Bulletin of the Board.

The next scheduled examination (Part I), written, and review of case histories for all candidates will be held in various cities of the United States, Canada, and military centers outside the Continental United States, on Friday, February 1, 1957.

Current Bulletins are now available and may be obtained by writing to Robert L. Faulkner, M.D., Secretary, 2105 Adelbert Road, Cleveland 6, Ohio.

* * *

Fiske Essay on Infertility.—The Trustees of America's oldest medical essay competition, the Caleb Fiske Prize of the Rhode Island Medical Society, announce as the subject for this year's dissertation "The Present Day Treatment of Infertility." The dissertation must be typewritten, double spaced, and should not exceed 10,000 words. A cash prize of \$350 is offered. Essays must be submitted by January 10, 1957.

For complete information regarding the regulations, write to the Secretary, Caleb Fiske Fund, Rhode Island Medical Society, 106 Francis Street, Providence 3, Rhode Island.

* * *

A new cabin at Camp Blodgett on Lake Michigan was dedicated recently to Dr. David B. Hagerman, of Grand Rapids, for his long, continuous and dedicated, service to the camp. Known as the Hagerman cabin, the building commemorates Dr. Hagerman's twenty-two years as a member of the board of directors and for his donation of medical services.

The new cabin will accommodate twenty-eight needy campers from Grand Rapids who are selected by the Community Chest. The campers attend three-week sessions. The camp, founded in 1921, is co-sponsored by the Community Chest and by Babies Welfare Guild which is in charge of capital improvements.

* * *

Michigan Allergy Society officers for the current year are: Kenneth P. Mathews, M.D., Ann Arbor, president; E. Oskar Schreiber, M.D., Flint, vice president; Bernard Dickstein, M.D., Flint, secretary-treasurer. The executive committee is composed of these three officers plus Henry D. Beale, M.D., Toledo; Sidney Friedlaender, M.D., and Joseph H. Shaffer, M.D., Detroit.

* * *

University of Michigan Medical School will sponsor a Symposium on Endocrines and Nutrition, October 11-12, 1956, in the Amphitheatre, Horace H. Rackham School of Graduate Studies, Ann Arbor. For program, write Dr. Frank H. Bethell, Simpson Memorial Institute for Medical Research, Ann Arbor, Michigan.

NEWS MEDICAL

1957 MCI. Daniel W. Myers, M.D., Detroit, has been appointed chairman of the Colored Television Program for the 1957 Michigan Clinical Institute.

This colored television program (Smith, Kline & French Laboratories) will emanate from the Grace Hospital and be beamed into the Grand Ballroom of the Sheraton-Cadillac Hotel, between the hours of 11:30 a.m. to 1:30 p.m. on each of the three days of the MCI—March 13-14-15.

W. M. LeFevre, M.D., of Muskegon, is chairman of the over-all Program Committee for the 1957 MCI.

Otto O. Beck, M.D., Birmingham, is General Chairman of Arrangements for next year's Institute.

Brief History of the Caduceus. In Greek Mythology, Apollo, the sun god, carried a staff or wand which exercised influence over the living and the dead. Apollo was not only a great athlete but also god of the healing art. According to fable, Apollo gave his staff to Mercury in return for the honor of inventing the lyre. As Mercury entered Arcadia with this wand in his hand he saw two serpents fighting; he threw the staff between them, and they immediately wound themselves around it in friendly union.

Aesculapius, Apollo's son, was the legendary Greek

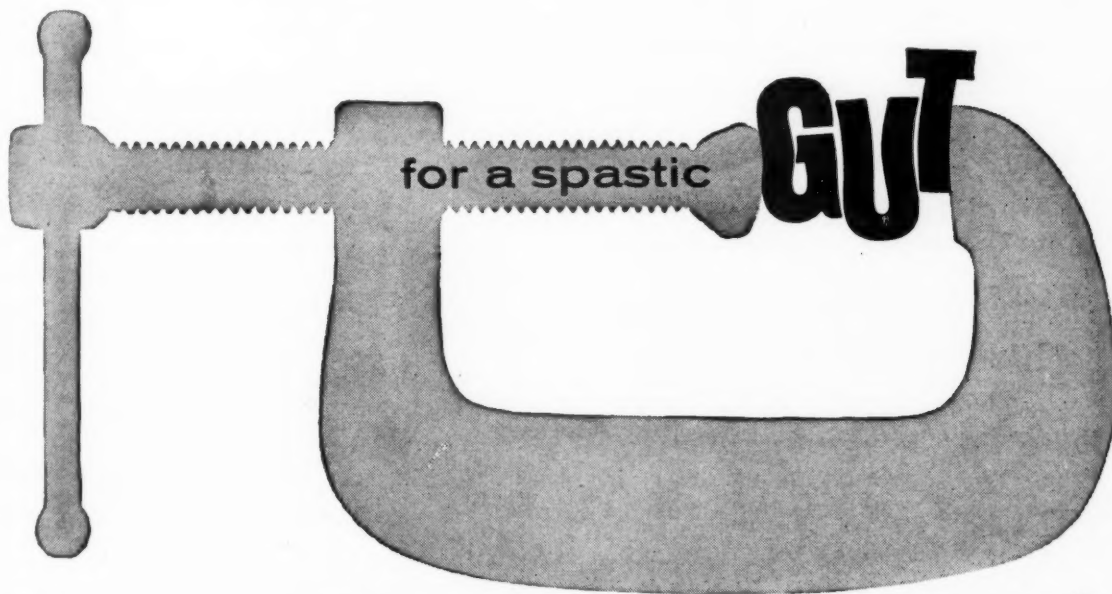
god of medicine. When Aesculapius was treating a patient one day, a snake appeared and entwined about his walking stick, thus conferring on him the gift of wisdom and establishing the staff of Aesculapius as the classical symbol of medicine.

The caduceus of Mercury first became associated with medicine in the 16th century. Sir William Butts, physician to Henry VIII, was the first to employ the caduceus on his chest. In 1902 the caduceus was adopted as the insignia for the medical officers of the U. S. Army. It also is used as the insignia of the Dental Corps, Veterinary Corps, Army Nurse Corps, and Sanitary Corps.

British physicians long ago dropped the winged caduceus. The Royal Army Medical Corps, for example, pledges allegiance to Aesculapius' staff. The caduceus also seems to be losing out in the United States. The new insignia of the Air Force Medical Service physicians is a stripped-down staff of Aesculapius; the U. S. Public Health Service also had dropped the single-serpent device.

* * *

Clare L. Straith, M.D., Detroit, Michigan, will appear on the program of the Interstate Postgraduate Medical Association of North America, Cleveland, Ohio, October 22-25, 1956. The meetings will be held at Municipal Auditorium. For program, write Interstate PG Medical Association, Box 1109, Madison 1, Wisconsin.



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SEPTEMBER, 1956

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1. Pollock, B. E., and Pruitt, F. W.: *Am. J. M. Sc.*, 226:172, 1953.

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Dues and Special Assessments of component medical societies of Michigan. The following figures recently were certified by component societies of Michigan as their local per member dues:

Allegan	\$18.00
plus \$100.00 assessment	
Alpena-Alcona-Presque Isle	10.00
Barry	40.00
Bay-Arenac-Iosco	30.00
Berrien	5.00
Branch	30.00
Calhoun	10.00
Cass	None
Chippewa-Mackinac	15.00
and assessment of \$10.00	
Clinton	10.00
Delta-Schoolcraft	30.00
Dickinson-Iron	
Eaton	20.00
Genesee	No dues
—no assessment	
Gogebic	10.00
Grand Traverse-Leelanau-Benzie	13.00
—no assessment	
Gratiot-Isabella-Clare	3.00
—special assessment only when necessary	
Hillsdale	15.00
Houghton-Baraga-Keweenaw	10.00
Huron	55.00
Ingham	10.00
Ionia-Montcalm	30.00
(includes meals)	
Jackson	13.00
—no assessment	
Kalamazoo	55.00
Kent	10.00
—no assessment	
Lapeer	10.00
Lenawee	40.00
Livingston	16.00
—no assessment	
Luce	None
Macomb	23.00
—no assessment	
Manistee	15.00
Marquette-Alger	8.00
Mason	5.00
Mecosta-Osceola-Lake	95.00
(plus local assessment of \$20.00)	
Menominee	20.00
—no assessment	
Midland	20.00
Monroe	10.00
Muskegon	45.00
Newaygo	45.00
North Central	10.00
Northern Michigan	5.00
Oakland	20.00
Oceana	
Ontonagon	None
Ottawa	30.00
Saginaw	20.00
St. Clair	6.00
St. Joseph	45.00
Sanilac	40.00
(this includes meals)	
Shiawassee	5.00
Tuscola	
Van Buren	14.00
Washtenaw	15.00
Wayne	25.00
and \$10—local assessment	
Wexford-Missaukee	20.00
—no assessment	

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DOCTOR LOCATIONS

Through August 1, 1956

Placed By Michigan Health Council:

Name	Opened Practice In	Approximate Date	From
Oswald Nakas, M.D.	Edwardsburg	July 1	Buchanan
Thomas Leider, M.D.	Ovid	July 15	Chicago
Harrison C. Visscher, M.D.	Fennville	July 1	Grand Rapids
Russell Smith, M.D.	Whitmore Lake	July	Rockford, Illinois

Assisted By Michigan Health Council:

Name	Opened Practice In	Approximate Date	From
Clyde P. Davenport, M.D.	Saginaw	July 1	Internship
Peter J. Verkaik, M.D.	Hudsonville	July 1	Grand Rapids
John W. Kavanaugh, M.D.	Kalamazoo	July 1	Detroit
Richard Coak, M.D.	Tecumseh	July 1	Toledo, Ohio
Henry Gall, M.D.	Detroit	July 1	Brooklyn, New York
Richard T. Mellis, M.D.	Kalamazoo	July 1	St. Louis, Mo.
Robert F. Landstra, M.D.	Grand Rapids	July 1	Florida
F. L. Clement, M.D.	Kalamazoo	July	Cleveland, Ohio

MEDICAL TELEVISION SHOWS

Produced by Michigan Health Council

Date	Station	Subject	Guests
July 1, 1956	WJBK-TV, Detroit	Fire and Your Hospital	A Film
July 3, 1956	WKAR-TV, East Lansing	Volunteer Bureau	Mrs. Joseph Stack, Lansing
July 8, 1956	WJBK-TV, Detroit	Guard Your Heart	A Film
July 15, 1956	WJBK-TV, Detroit	Rehabilitation Institute	C. Robert Dean, M.D., Detroit
July 22, 1956	WJBK-TV, Detroit	M.D. Placement	Russell S. Blanchard, M.D., Detroit
July 29, 1956	WJBK-TV, Detroit	Vision	Film—A Citizen Participates
			Film—Johnny's New World
			Film—Magic in the Seeing

SEPTEMBER, 1956

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NEWS MEDICAL

In addition to the 2,000,000 diabetics now in the United States, 3,000,000 persons will develop diabetes sometime during their lives, according to the American Diabetes Association.

* * *

It would seem to be elementary that, if a patient with an acute lower respiratory infection were ill enough to require hospitalization, an initial diagnostic chest x-ray would be mandatory, and that for pneumonias, additional progress films would be in order.—C. WESTLEY EISELE, M.D., VERGIL N. SLEE, M.D., and ROBERT G. HOFFMANN, Ph.D., *Ann. Int. Med.*, Jan., 1956.

* * *

The 1956 Upper Peninsula Medical Society meeting in Sault Ste. Marie, June 22-23, chalked up a total attendance of 216, including ninety-four doctors of medicine. The Michigan Medical Assistants Society organized an Upper Peninsula Section, with forty-four representatives in attendance.

* * *

Endocrinology and Metabolism. The Eighth Annual Postgraduate Assembly of the Endocrine Society will be held at Texas Medical Center in Houston, October 22-27, 1956. An excellent program has been arranged. For program and full information write J. B. Trunnell, M.D., Chairman, M. D. Anderson Hospital and Tumor Institute, Houston 25, Texas.

* * *

The Fall Postgraduate Clinic of the Michigan Academy of General Practice will be held November 6-8, 1956, at the Sheraton-Cadillac Hotel, Detroit. This Tenth Annual Clinic will feature twenty nationally known clinical teachers participating in symposia on (a) pediatrics, (b) obstetrics and gynecology, (c) cholesterol, (d) cardio-vascular diseases, (e) new tranquilizers, and (f) internal medicine. The annual banquet is scheduled for Wednesday, November 7, at 6:00 p.m. All members of the Michigan State Medical Society are cordially invited to attend the Clinic.

* * *

What Does the "Blue Shield" Mean to You? Have you ever stopped to ask yourself, doctor, why some 37 million Americans have enrolled in Blue Shield, the medical profession's own approved prepayment program in a little more than ten years' time?

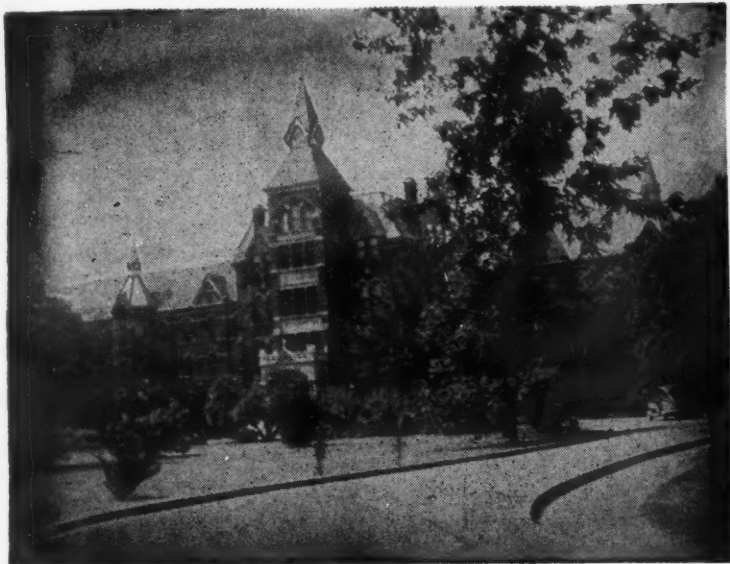
Blue Shield and its companion Blue Cross have accomplished the most stupendous enrollment of any insurance program ever offered the American people—at a minimum of expense and by relatively "low pressure" sales methods. This accomplishment has been possible because there is now an almost universal desire for protection against the costs of unpredictable illness. The chief reason why so many people have chosen Blue Shield is that they know it is recommended and supported by the medical profession, and most people have confidence in the nation's doctors.

By the same token, more Americans have chosen Blue Cross than any other hospital insurance program because Blue Cross is sponsored by the hospitals, and

(Continued on Page 1136)

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(Continued from Page 1134)

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Blue Shield is also a bridge of common interest and mutual benefit between the doctor and his patient—it is evidence to each of the trust and confidence of each other. Blue Shield is an assurance to the patient of prepaid service when he needs it—and to the doctor, it assures prompt reimbursement for his services.

THE ACADEMY OF PSYCHOSOMATIC MEDICINE

The Academy of Psychosomatic Medicine will hold its third annual meeting at the Hotel Plaza, New York City on Thursday, Friday, and Saturday, October

4, 5, and 6, 1956. Just as the first annual program was devoted to the Psychosomatic Aspects of Surgery and the second to the Psychosomatic Aspects of Drug Administration, the third will be key-noted around the subject of the Psychosomatic Aspects of the General Practice of Medicine.

Including all panelists, there will be a total of forty-four speakers who will cover every facet of Psychosomatic Medicine as encountered in both general and specialty practice.

The meeting is open to all Fellows, Associate Fellows, their guests, and interested physicians. There is no registration fee. For details concerning the program and the speakers, questions should be directed to the office of the Secretary, Dr. Ethan Allan Brown, 75 Bay State Road, Boston 15, Massachusetts.

THE OPEN AIRWAY

(Continued from Page 1086)

ent motion. There is no pulse, no heart sounds, and only by direct vision or an electrocardiogram can the diagnosis be made and the condition be differentiated from a complete cardiac arrest. The heart distends and becomes very cyanotic and, except for the fibrillating muscle, appears like the heart in complete arrest. Manual compression of the heart is essential for oxygenation of the heart and brain, and when the heart muscle is well oxygenated the defibrillator should then be used. The animal laboratory is the place to acquaint the house and attending staffs with the technique and dangers of this instrument, as well as the realization that it may take time and effort to accomplish defibrillation.

Cardiac resuscitation is only possible if one is able to recognize a cardiac arrest and institute a bold, well organized plan. The animal laboratory is invaluable in this training program, and the lessons learned here may save many lives. Aseptic and careful surgical technique undoubtedly will aid in the recovery of the animal.

The most important lesson to be learned from such a demonstration and study, both for the anesthetist and surgeon, is the realization of the importance of an open airway and the free exchange of gases in the prevention of cardiac arrest and ventricular fibrillation.

“...in patients
with moderately
severe and severe
cardiac failure,
neohydrin
is the oral diuretic
of choice.”*

*Moyer, J. H., and others:
J. Chronic Dis. 2:670, 1955.

□♦♦♦□

THE DOCTOR'S LIBRARY

THE DOCTOR'S LIBRARY

Acknowledgment of all books received will be made in this column, and this will be deemed by us as full compensation to those sending them. A selection will be made for review, as expedient.

POLIOMYELITIS. By W. Ritchie Russell, C.B.E., M.D. (Edin.), D.Sc. (Oxon), F.R.C.P. (Edin.), F.R.C.P. (Lond.); Director, Department of Neurology, United Oxford Hospitals; Clinical Lecturer in Neurology, University of Oxford; and Clinical Neurologist to the Army. Second Edition. London: Edward Arnold (Publishers) Ltd. Price \$3.00.

This concise 140 page manual is an excellent review of the diagnosis and treatment of poliomyelitis, with emphasis on British methods. It is outdated and not too helpful for the American physician.

R.S.

TEXTBOOK OF UROLOGY. By Victor F. Marshall, M.D., F.A.C.S., Associate Professor of Clinical Surgery (Urology), Cornell University Medical College; Attending Surgeon-in-Charge, Urology, James Buchanan Brady Foundation of the New York Hospital; and Associate Attending Urologist, the Memorial Center for Cancer and Allied Diseases, New York City. New York: Hoeber-Harper. Price \$5.00.

This textbook of urology is of real value to the general practitioner and medical student. This reviewer is especially pleased with it and can recall no text on urology, since the publication of Dr. Hugh Young's two volume work, where the importance of obstruction

and infection are so stressed. Obstruction must be removed before the control of infection is possible.

In the format of the book he wisely puts the subject matter of each paragraph in italics, and the schematic drawings emphasize and clarify the words of the text.

Evaluation of the whole patient is stressed along with a complete genitourinary work-up where urologic disease is suspected. For conditions with symptoms referable to deep-seated urologic pathology, the reasons for a complete urologic work-up are explained. The type of instrumentation or surgery is advised without an attempt to detail the steps of the many intricate maneuvers necessary in urologic surgery.

HUNTERDON MEDICAL CENTER. The Story of One Approach to Rural Medical Care. By Ray E. Trussell. Published for the Commonwealth Fund by Harvard University Press, Cambridge, Massachusetts, 1956.

Hunterdon County is a rural area of 435 square miles with a population of 2,800 in western New Jersey, which at the end of World War II, attempted to secure adequate medical and health care. Advice from the county medical society, New York University, and Bellevue Medical Center, eventuated in the Hunterdon Medical Center after several years of planning and money raising, and the construction of a building to put on an elaborate program.

The story is told in great detail and makes interesting reading. The Commonwealth Fund participated in the creative and publishing activities.

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ANESTHESIA FOR OBSTETRICS. Labor—Delivery—Infant Care. By Robert A. Hingson, Professor of Anesthesia, Western Reserve University, and Director of Anesthesia, University Hospitals of Cleveland; and Louis M. Hellman, Professor of Obstetrics and Gynecology, State University of New York, College of Medicine at New York, and Director of Obstetrics and Gynecology, Kings County Hospital, New York. Philadelphia and Montreal: J. B. Lippincott Company. Price \$12.50.

This is a well written text on anesthesia and analgesia as applied to obstetrics. The physical appearance of the book is exceptionally inviting, with gloss paper, large, clear type, distinct drawings and sketches, and many documented graphs and charts, and a few beautiful color plates.

Each analgesic and anesthetic agent is discussed as

to its pharmacology, physiologic effect, dangers, antidote, and proper method of use. There are several chapters devoted to the anatomy of the pelvis, anatomy of the circulation in the fetus, physiology of labor, and complications in pregnancy and labor. The relationship of these to the sedatives and anesthetics to be used is effectively explained.

The final chapter takes up the organization of the obstetric anesthetic service on a twenty-four-hour basis in hospitals of several sizes and types.

Because the writing is clear and concise, the book can be a source of request-reference by either anesthetists or obstetricians.

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THE ROCHESTER REGIONAL HOSPITAL COUNCIL. Leonard S. Rosenfeld, M.D., M.P.H., and Henry B. Makover, M.D. Published for The Commonwealth Fund by Harvard University Press, Cambridge, Massachusetts, 1956. Price \$3.50.

The Rochester Regional Hospital Council is the story of work performed under the Commonwealth Fund, extending over a period of almost twenty-five years, studying the effects of suitable rural hospitals in increasing the medical and health care of rural communities. The Fund helped build fourteen hospitals removed from metropolitan centers. The Hill-Burton Act in 1948 terminated the necessity of continuing construction by making funds available.

This book is a report of a survey of the project of the establishment of the Council, selection of the area, the program of education and the conclusion. The work was successful in that the standard of health was much improved.

HUMAN OVULATION AND FERTILITY. Edmond J. Farris, Ph.D., Executive Director, Associate Member, the Wistar Institute of Anatomy and Biology, Philadelphia & Montreal: J. B. Lippincott Company, 1956. Price \$6.50.

This book is a summary of observations by the author concerning ovulation and its relations to fertility.

It opens with a description of the rat hyperemia test to determine the presence of and the time of ovulation. The test seems to be more accurate than previous methods, although it requires specific circumstances, specific materials, and trained personnel for reading the results.



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Based on his own extensive studies and the clinical work of others with this test, the author has formulated a new method for figuring and therefore a new plan for selecting the optimum time of conception. With his ability to determine the time of ovulation, he has revised the advice to couples on the control of conception.

The book, being a compilation of data and conclusions from the rat hyperemia test to determine ovulation time, is a source of information, both corroborative and new. It is not a reference book. It is well composed, has many charts and graphs, and the statements are well documented.

S.T.L.

THE MORPHOLOGY OF HUMAN BLOOD CELLS.
By L. W. Diggs, M.A., M.D., Professor of Medicine and Director of Medical Laboratories, University of Tennessee and City of Memphis Hospitals; Consultant in Hematology, Armed Forces Institute of Pathology, Washington, D. C.; Dorothy Sturm, Instructor, Memphis Academy of Arts; and Ann Bell, B.A., Instructor in Medicine, University of Tennessee. Philadelphia and London: W. B. Saunders Company, 1956. Price \$12.00.

This book, as the title indicates, is an atlas devoted to the description of various blood cells and enters but little further than that in the broad field of hematology. It should prove useful to the laboratory technician, all students of hematology, and to those clinicians who wish to check their own stained blood films. Many of the colored drawings have previously appeared in a brochure

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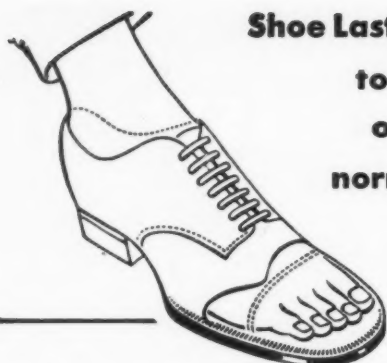
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SURGERY—Surgical Technic, two weeks, October 29, November 26
Surgical Anatomy and Clinical Surgery, two weeks, October 1
Surgery of Colon and Rectum, one week, October 15
General Surgery, one week, October 22
Thoracic Surgery, one week, October 1
Esophageal Surgery, one week, September 24
Breast and Thyroid Surgery, one week, October 22
Gallbladder Surgery, three days, October 29
Fractures and Traumatic Surgery, two weeks, October 15

GYNECOLOGY AND OBSTETRICS—Obstetrics and Gynecology, three weeks, October 22
Vaginal Approach to Pelvic Surgery, one week, October 15

MEDICINE—Electrocardiography and Heart Disease, two-week basic course, October 8; one week advanced course, September 17
Internal Medicine, two weeks, September 24
Gastroenterology, two weeks, October 22
Dermatology, two weeks, October 15
Cardiology (Pediatric), two weeks, November 5

RADIOLOGY—Diagnostic X-ray, two weeks, November 26
Clinical Uses of Radioisotopes, two weeks, October 8

UROLOGY—Two-week course, October 8
Cystoscopy, ten days, by appointment

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circularized to the profession by a pharmaceutical firm two years ago. The art work, as in many similar atlases, portrays cells with a sharp and bright color delineation and not as they appear through the ocular of the microscope. It must be assumed that this is done for the purpose of teaching the characteristic general features of such a cell, as the colored photomicrographs only bring out the individual traits of that particular cell. The other illustrations and the brief text are good. The portions of the book devoted to the L.E. cell phenomenon and to the megakaryocytes are current and excellent. The eleven page chapter on techniques and methods is basic but a very thoughtful inclusion.

A.A.B.

RHEUMATIC FEVER PROPHYLAXIS

(Continued from Page 1119)

Medical Society Rheumatic Fever Control Committee is attempting to arrive at a program to permit such substitution, but as yet has been unable to agree on a workable solution.

3. "Must the invoice vouchers be returned for payment within ninety days of the last service? The Afflicted Children's Act states "Payment shall be refused on any billing rendered ninety days or more after the discharge of the patient from the hospital."

With regard to the prophylaxis program, it is almost imperative that billing be made immediately after the last treatment authorized in order that authorization for the next treatment will have been received in the intervening months since payment for service before the date such service is authorized cannot be made under any circumstances.

4. "I saw a patient twice and last gave him benzathine penicillin G three months ago. I understand that he has moved to another locality. What procedure is to be followed?"

Complete your invoice voucher for the service rendered and send it in for payment along with a note that patient has moved giving new address if known. The doctor at the new address should write the Michigan Crippled Children Commission giving identifying data and asking for authorization to continue prophylaxis. Do not send the invoice voucher made for your signature to the other physician; he must be furnished one for his signature. If you do not know where the patient moved, we will ask the Health Department to locate him.